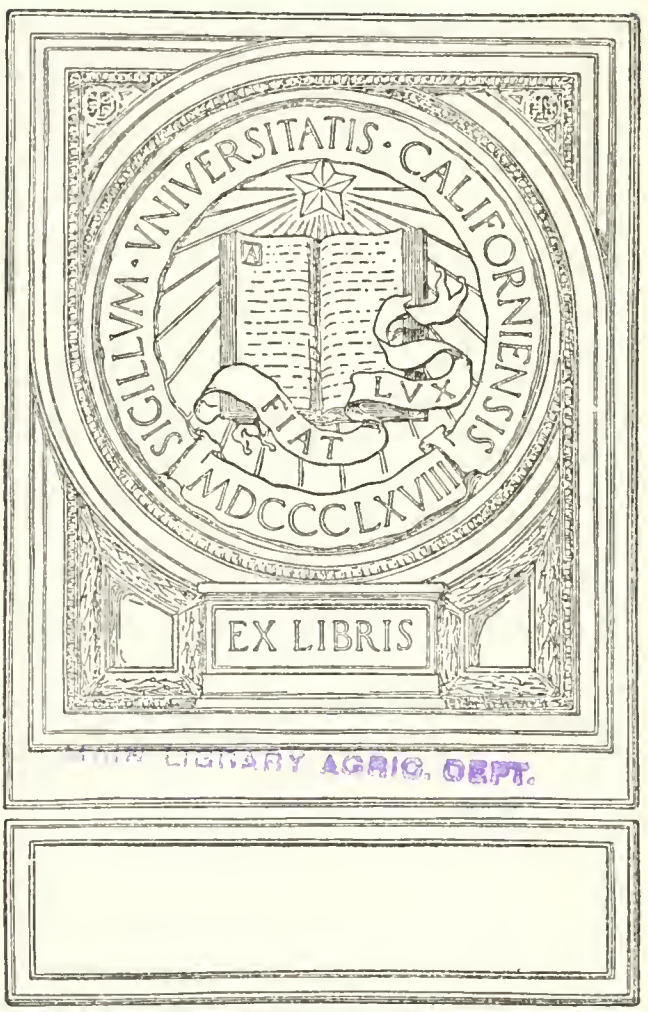
THE NATURAL TROUT FLY AND ITS IMITATION

LEONARD WEST



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THE NATURAL TROUT FLY AND ITS IMITATION.

BEING AN ANGLER'S RECORD
OF INSECTS SEEN AT THE
WATERSIDE AND THE
METHOD OF TYING
THE FLIES.

BY LEONARD WEST.

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30, EXCHANGE STREET EAST, LIVERPOOL.
1921.

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FOREWORD.

It is with considerable diffidence on the part of the Author that this Book is laid before the general public. The notes and observations contained in it were made for private use only, but owing to the persuasion of a friend, the Author has decided to give them a wider circulation.

If the reader obtains useful information from these pages, or finds matter of interest therein, he has to thank J. Unsworth, Esq. (M.B. London), of St. Helens, entirely, for without his persuasion and kind assistance, the Sketches would have remained as entries only, in a private note book.

To other friends who have given assistance, I will take this opportunity of tendering hearty thanks; whatever has been required, either in the way of materials, information, or advice has been freely and ungrudgingly given.

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Introduction.

TO almost every fly fisher sooner or later there comes a desire for more knowledge of the various insects seen at the waterside and used in his craft, and also a wish for some definite idea as to their classification and life history.

Should the reader not be possessed by this desire, we strongly recommend him to miss this chapter, which is an attempt to convey a broad idea of the general classification of insects with as few technicalities, and in as simple language as possible; but withal in such a form as to be acceptable to fellow anglers, and so that even the least initiated will be enabled to distinguish an Ephemeron from a Stonefly or a Caddis Fly, and so on. The expert entomologist may scorn the feeble attempt; this, however, is not written for his edification, but for the humble followers of the immortal Walton who prefer wading in a pellucid stream to the intricacies of an entomology.

It is not necessary that the angler should know every species by name—to do so would entail the work of a lifetime, as the species are numbered by thousands, and many of the differences which determine the species are so small as to be negligible from the angler's point of view. It is, however, both useful and interesting to have a broad idea of the general classification of the insect world, and such knowledge will give added enjoyment to many an hour when angling interest flags.

From the purely sporting point of view, the angler with a knowledge of entomology, possesses a great advantage, and is able readily to select a suitable fly; whereas, one without this knowledge is liable to fall into mistakes which appear grotesque to the initiated.

The insect world is divided into ten orders or general divisions, which are again sub-divided into sub-orders, families, and species, as follows :—

	Order.	Sub-Orders.	Families.	Types.
1.	*Aptera*	2	7	Silver Fish or Sugar Louse.
2.	*Orthoptera*	2	10	Earwigs, Cockroaches, Grasshoppers, etc.
3.	*Neuroptera*	5	10	Nerve-winged Insects.
4.	*Hymenoptera*	4	24	Ants, Bees, Wasps, etc.
5.	*Coleoptera*	7	86	Beetles.
6.	*Lepidoptera*	3	53	Moths and Butterflies.
7.	*Diptera*	6	43	Two-winged Flies.
8.	*Aphaniptera*	2	—	Fleas.
9.	*Thysanoptera*	–	—	Thrips.
10.	*Hemiptera*	4 (6 series)	35	Scale Insects, " Bugs," Water Measurers, Water Boatmen, Greenflies.

Looking down this formidable list one is relieved to find that without more ado it may be reduced from ten to five, if we retain only those orders for which we have an immediate use, as follows :—

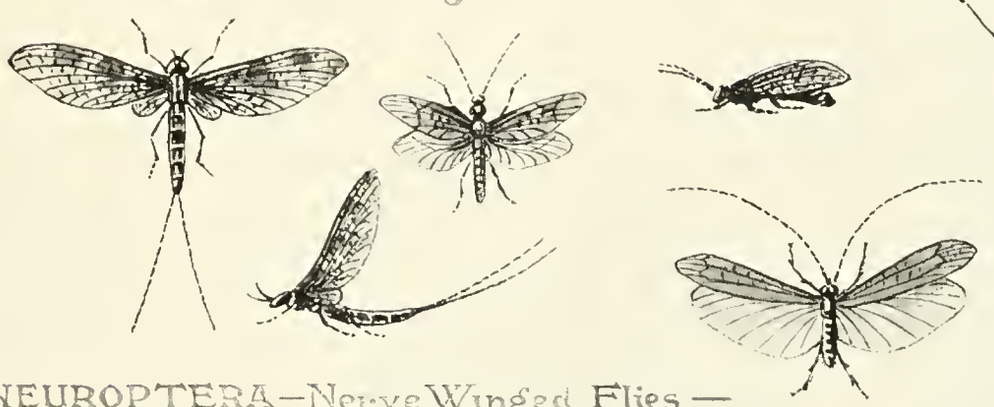
1. *Neuroptera* Nerve-winged Insects, Plates 1a, 3, 4, 5, 6.
2. *Hymenoptera* Wasp-waisted Flies, Plates 1a, 8.
3. *Coleoptera* Beetles, Plates 1a, 7.
4. *Diptera.* Two-winged Flies, Plates 1a, 1, 2.
5. *Hemiptera* Water Measurers, Boatmen, etc., Plates 1a, 7, 8.

The illustration on the following pages will, we hope, make the characteristics of each class clear to the observant reader.

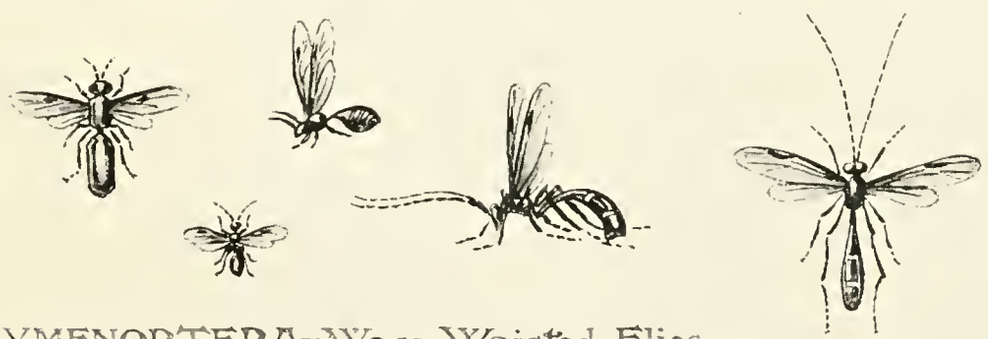
Insects undergo three distinct changes of form or metamorphoses ; they commence as an ovum or egg which hatches into a larva commonly called a grub or caterpillar. During this period the insect usually feeds voraciously, frequently doing great damage to its food plants, and as it grows too large for its sheath it casts it, this being repeated many times in some species. Frequently the colour of the new sheath is in strong contrast to the one cast off. Full growth being attained, the larva changes into a pupa or chrysalis, a stage very variable in duration,

PLATE IX.

DIPTERA—Two Winged Flies—



NEUROPTERA—Nerve Winged Flies—



HYMENOPTERA—Wasp Waisted Flies—

COLEOPTERA—Beetles—Having Hard Wing Cases—

HEMIPTERA—Having Horny Upper Wings—

sometimes lasting a very short time only; in other insects many months are spent at rest in this state. Then the sheath is split and the insect emerges in its final form, and is known as an imago. There is an exception to every rule—*Ephemeridæ* emerge from the pupal sheath as Sub-imagines or "Duns," and cast a further complete sheath before they are known as Imagines or Spinners.

This list has recently been overhauled. Entomology as a science is unfortunately in a state of tentative development, and instead of insects being entirely classified according to appearance and the characteristics of their final development, they are now classified according to various features of development during the earlier stages of their existence, the idea followed being that all insects are in a state of progressive development, and an attempt is now made to arrange and classify according to their place in this development. This is the general list of orders which is adopted at present :—

Class *Hexapoda*—or *Insecta.*

Sub-Class.	Order.	Type.
Apterygota.— Wingless.	1. *Aptera*	Silver-fish or Sugar-louse.
Exopterygota.— Wings developed visibly outside the cuticle.	2. *Dermaptera*	Earwigs.
	3. *Orthoptera*	Cockroaches, Grass Hoppers, Crickets, etc.
	4. *Plecoptera*	Stone Flies.
	5. *Corrodentia*	Book-lice, etc.
	6. *Ephemeroptera*	Mayflies.
	7. *Odonata*	Dragon-flies.
	8. *Thysanoptera*	Thrips or Flower Insects.
	9. *Hemiptera*	Bugs, Frog Hoppers, Aphides, etc.
	10. *Anoplura*	Lice.
Endopterygota.— Wings developed beneath the larval cuticle only visible after penultimate moult.	11. *Neuroptera*	Alder Flies, Lacewings, etc.
	12. *Coleoptera*	Beetles.
	13. *Mecaptera*	Scorpion-flies.
	14. *Trichoptera*	Caddis Flies.
	15. *Lepidoptera*	Butterflies and Moths.
	16. *Diptera*	Two-winged Flies.
	17. *Siphonaptera*	Fleas.
	18. *Hymenoptera*	Ants, Bees, Wasps, etc.

This list gives eight orders of interest to anglers, viz. :—

Order.	
4. *Plecoptera*	Stone Flies.
6. *Ephemeroptera*	Mayflies.
9. *Hemiptera.*	Bugs, Boatmen, etc.
11. *Neuroptera*	Nerve-winged flies.
12. *Coleoptera*	Beetles.
14. *Trichoptera*	Caddis Flies.
16. *Diptera*	Two-winged flies.
18. *Hymenoptera*	Ants, Bees, and Wasps.

in place of the five previously cited, solely due to the fact that the Stone Flies, Mayflies, and Caddis Flies are placed in separate orders instead of being grouped as "*Neuroptera*"—owing to the different characteristics shown during their larval and pupal stages. The specific names remain unaltered, as this book is intended for the use of anglers rather than entomologists, we propose to follow the time-honoured nomenclature of *Linnæus*. Stone Flies are thus *Perlidæ* as of yore, not *Plecoptera*, and Mayflies are *Ephemeridæ* and not *Ephemeroptera*. Let the Systematists grumble as much as they like—the fish won't mind! And for a long while to come the old names will be the ones favoured of anglers.

I. The *Neuroptera*, or nerve-winged flies, have two pairs of wings, both pairs membraneous with extensive neuration; certain *Ephemeridæ*, which have only one pair, make an exception to this rule; the imago has a biting mouth.

By neuration is meant the system of nerves which constitute the framework that supports the membrane of the wings.

Selecting again only those families of the *Neuroptera* of interest to anglers, we have the following :—

Ephemeridæ	Mayflies, Duns, etc.
Perlidæ	Stone Flies or Needle Flies.
Trichoptera or *Phryganidæ*	Caddis Flies.
Chrysopidæ	Lacewings.
Sialidæ	Alder Flies.

The *Ephemeridæ* are delicate insects with atrophied mouths and small short antennæ, or feelers; usually having four membraneous wings, having much minute cross veining, the hinder pair much smaller than the other pair and sometimes entirely absent; the body terminating in three or two elongate slender tails. The wings when at rest are closed together nearly vertically over and in line with the body of the insect.

The *Perlidæ* vary in size considerably and have four membraneous wings smoky in colour, the hind pair much larger than the upper pair; the neuration is complex and looks brownish against the light. Most insects have small heads, a thorax, and an abdomen. In contrast to this the *Perlidæ* have well-developed heads, a pro-thorax, and also a metathorax; in consequence, the legs are widely separated. When at rest the wings are folded flat or else furled along the body.

Trichoptera, or *Phryganidæ*, as they are variously called, form a connecting link between flies and moths, and have always rather puzzled entomologists; their wings are more or less clothed with hair, the nervures divide at very acute angles with very few transverse nervules, hind wings larger than the front ones; antennæ and legs often long, though not so in all species; mandibles, or lower jaws, absent or rudimentary; larvæ, caterpillar-like, usually inhabiting cases of their own construction.

Chrysopides, the Lacewing flies, fragile insects, with four beautiful gauzy wings, which fold over their back roofwise, are remarkable for their brilliant gold or ruby coloured eyes, which possess a remarkable brilliance; and, lastly, the

Sialidæ, of which there is only one British species that has two pairs of dusky wings, the hind pair slightly smaller, and both heavily veined, which also close roofwise when at rest.

The *Ephemeridæ* (Plates 3 and 4), of which there are over forty species, form one of the most important classes to anglers. From early Spring to late Autumn they are seen in swarms about the water with a curious up and down flight, winging their way before the wind or quietly floating down the stream with wings

upright. They have an infinite variety of size and colour; some species have well-marked cloudy wings easy of imitation, others have wings which vie with the rainbow in colour and iridescent beauty, of which no entirely satisfactory imitation can be produced. The *Ephemeridæ* are aquatic insects—the eggs are laid in the water and the larvæ live and grow there. Coming to the surface, the larva shakes off its sheath and emerges as a Sub-imago, this later, casts a second sheath and becomes a Spinner or Imago, and it is in this last stage that it baffles the imitator's skill. Some *Ephemeridæ* have a larval period of twelve months and others three years, hence, the pollution of a stream only once in every three years may be the cause of the disappearance of the large Drakes from so many of our streams.

The Stone Flies or *Perlidæ*, of which 40 species are indigenous to this country, are also of interest to anglers—especially on the upper waters of our streams, whose stony beds are the habitat of their larvæ.

Like the *Ephemeridæ*, they begin to show in March or even earlier and are with us to the end of the season. Their larvæ prey on other insects, especially the larvæ of the smaller *Ephemeridæ*. Their eggs are dropped on the water and hatch into creepers, the following year developing into flies. The Creepers are curious little creatures with big heads and eyes, powerful looking legs, and long tails—the largest being *Perla maxima* (Fig. 50, plate 5)—and the Creeper of this fly is often used up stream by anglers much the same as a worm.

In the North of England, fly fishing is of little use for a week or two at least after a good hatch of this insect, so greedily do the fish take it. It has often been stated that the Yellow Sally (*Perla viridissima*) is a bitter fly and fish do not care for it. This is a great mistake; what the fish do not like is the wretched imitations which are offered in place of this very beautiful fly—a really bright imitation with good light-yellow glassy wings is taken freely under suitable conditions.

The smaller *Perlidæ* are all remarkable for the curious way in which they roll up their wings until the insect looks more like a thin bit of stick than a fly; however, all are worth imitating, and are great favourites with trout and grayling alike.

Trichoptera.—We next come to the Caddis Flies (plate 6), at present considered as a sub-order or family of the *Neuroptera*, though each succeeding generation of entomologists seems to delight in moving them to another place. They are divided into seven families, and 250 species.

These again are aquatic insects. The eggs are laid in the water in the form of a gelatinous globule, whence the larvæ emerge, and at once make themselves a covering of tubular form of either reeds, weeds, stones, shells, or other handy material which they cement together. Some varieties retain free movement, others cement their dwellings on to stones and stay there until hatching time comes. The larvæ of the larger varieties are very voracious and do not hesitate to attack small fish, which they grip from below with their powerful front claws, never letting go if once they get a fair hold. The larva is known as a Stick Bait or Cad Bait, and is much used in some districts. *Phryganea grandis* is the largest species. It is the Bustard of the North Country, and is often found running round the collar when one is on angling bent, especially at dusk. Possibly the white attracts its attention. As the hay ripens numerous white and yellow moths may be seen during the summer evenings hovering over the flowers and flying with considerable speed from plant to plant. These are the "Ghost Swift" moths (*Hepialis humuli*) of which the white is the male and the yellow the female, and have nothing whatever in common with the "Bustards" of the angler, although they are frequently erroneously called by that name; no doubt owing to the fact that they are strongly in evidence during the height of the Bustard season, and the ill-informed taking them as such, ties an imitation which is passed off as a Bustard. They never go near the water except by accident, whereas the real Bustards are born and bred in the water, lay their eggs there, and are a continual temptation to the lusty trout by reason of the way they skate upon, or hover over its surface.

The position of the wings when at rest is roofwise over the body and they are covered with curious downy hairs, which under the microscope look like small spear heads and from which the tribe derive their name. They are easy flies to imitate, and well worth using when the naturals are about.

The *Chrysopidæ* or Lacewings (plate 8, figs. 75, 76, 77) number 15 species—three of them are frequently seen on and about the water, namely: the green one (*Hemerobius alba*); the blue one (*H. nervosus*); and the yellow one (*H. hirtus*); and all are taken eagerly by the fish. The blue one at times is seen dancing over the water in hundreds and might be mistaken for a small Caddis Fly; but its clear, rather iridescent wings and different nervuration quickly reveals its identity. The eggs of this fly are laid on bushes, each egg being carried on a hair-like support attached to a leaf of the bush. The larger species in spite of their ample and resplendent wings have a curiously feeble flight when seen on the wing during the day, but in the dusk develop a surprising turn of speed at times.

The power of insects on the wing depends more on the size of the thorax than either the size, form, or number of their wings, in other words, a monoplane is quite as good as a biplane, provided the monoplane has sufficient engine power behind it.

Of the *Sialidæ* or Alder Flies (plate 8, fig 80), we have only one example—*Sialis lutaria*—so common everywhere, sitting on fences or flying over the water. The eggs of this fly are laid in patches on the leaves of marginal plants—one patch at times containing over 1,000 eggs—and as they hatch, the larvæ make their way down into the water, where they grow during their larval period and then burrow at the margin of the water and spend a short pupal period, emerging to enjoy a time of flight and flirtation and basking in the sun.

II. *Hymenoptera* (plate 8, figs. 78, 79, 81–86, and plate 9, figs. 96, 97) possess four wings, membraneous without scales, never very large, the hind pair smaller than the front; nervures irregular in size and form; mandibles conspicuous. The females are furnished with a saw, sting, or ovipositor at the extreme

end of the body, which may be withdrawn into the body or be permanently protruded.

Hymenoptera are a very large class, including as they do, many insects of such widely different habits. They are popularly known as wasp-waisted flies, such being an easily recognised characteristic. The Ants, Bees, Wasps, Ichneumon, and Gall-flies, of which we use some few, and the Saw-flies are included in this order. The *Hymenoptera* are looked upon by entomologists as the most interesting and intelligent species found in the insect world, containing as they do the bulk of those which have communal existence and live in colonies, where laws exist and the strictest discipline is maintained. Many of the species are beautiful alike in form and colour. Very few of them are aquatic insects, but many get on the water accidentally. This is possibly one reason why at times they are so attractive, as once on the water they buzz and make a great fuss instead of quietly going ashore. If asked which is our most beautiful fly, one would be puzzled to answer, but an exceedingly handsome fly is the Ruby-tailed Wasp, or Fire-tail (*Chrysis ignita*), plate 8, fig. 85, and there is a similar fly (*C. rubii*) about half the size. One often wonders at fly tiers making " fancy " flies, when there are in nature such magnificent examples to be copied. These two flies are said to be enemies of the common solitary wasp, preying on their larvæ ; laying their own eggs in the comb of the wasp ; their larvæ eating the wasp grubs.

Plate 8, figs. 78, 79, shew *Nematus niger* and *Nematus lucidus*, two very common flies, the former much in evidence in the Spring time, and the latter practically all the season.

Early writers on fishing flies all give the Hawthorn Fly (*Bibio marci*), plate 2, fig. 20, as one of importance, but we think *Nematus niger* is much more widely distributed, and abundant at the water-side ; we believe it is at times mistaken for and erroneously called the Hawthorn Fly.

Plate 8, fig. 84, the small Sand Wasp (*Allantus arcuatus*) is always found when the Soldier Beetle is moving, and frequently side by side on the same hemlock or other flower.

The Ichneumon flies have no special mission to perform about the water, but are frequently to be seen floating "spent" on the surface; plate 8, fig. 83, etc.

III. The *Coleoptera*, or beetles. Insects of this order are readily distinguished by means of their horny wing cases or "elytra" in combination with their strong antennæ and heavy legs.

On plate 7 are shown five of the most useful; the first is a fairly common brown beetle (*Serica brunnea*), useful for dibbing with, and taken by large trout and chub with avidity. At first glance it is recognised as a small Cockchafer.

Plate 7, fig. 67, is the small Cowdung Beetle (*Aphodius fætens*), which is taken with avidity at all times by trout. No. 68 is the "Soldier Beetle" (*Telephorus lividus*). The Soldier is found in hundreds on hemlock and similar flowers, flying about and dropping on the water in the sunshine. It is a beautiful orange colour, though there is another and larger beetle, which has a dark body instead of an orange one, and the elytra (wing cases) are rather more dingy in colour. The Sailor Beetle (*Telephorus rusticus*) is a similar insect, but has dark blue elytra with a metallic lustre. The fifth beetle illustrated (No. 70) is a very common one (*Elaphrus cupreus*), with dark shiny blue and greenish elytra, often found under stones, etc., by the water side, from which it is washed out whenever the water rises, and becomes a prey to the trout, which take it greedily.

There are many other varieties which are locally abundant, and if seen on the water, no doubt will repay the trouble of imitating. Our object, however, is not to multiply patterns, but to choose only the most useful and typical.

The Water Beetles are often taken by trout, but No. 5 is fairly like several of the common varieties.

IV. *Diptera*, as the name suggests, are the flies with two wings only, membraneous, usually transparent, and never very large; behind the wings are a pair of small spherical bodies terminating a short stalk; halterers or balancers they are sometimes called. These may be atrophied wings or the early stage of development of a second pair; both theories have been advanced in explanation

of these organs. The mouth parts are formed for sucking, and sometimes take the form of a proboscis, which can be retracted at will. The usual larval form is a small grub or maggot without feet.

Those which most interest us are the *Tipulidæ* or Crane-flies (plate 1, figs. 1–5); they are all useful to anglers, but in their larval stages, a scourge to farmers, doing great damage to the roots of their crops. The Winter Gnats (*Limnobinæ*) also belong to this family.

Examples of the Mosquitoes (*Culicidæ*), of which we have about ten varieties, and the Gnats (*Chironomidæ*), of which two hundred species are indigenous to this country, are shown on plate 1, figs. 6–10.

Included in the *Diptera* are the *Syriphidæ* or Hoverers, of brilliant yellow and black, which possess such marvellous powers of flight; the Woodflies (*Sarcophagidæ*); the Blow-flies (*Bibionidæ*); the Oakflies (*Leptidæ*), dear to the angler more from early association than actual use; the *Empidæ* or Snipe Flies, which prey on other insects; their head and mandibles resemble that of a woodcock, and of necessity to catch their prey, they are exceedingly quick of flight. (Plate 2.)

In all, we have over four thousand varieties of *Diptera*, indigenous to this country, plates 1 and 2 showing a few typical varieties.

There are also two now mentioned for the first time, which are favourites, and yet new to the angling world at large; one is the Silver Tail (*Theriva nobilata*), plate 2, fig. 21, and the other, fig. 27, of the Metallic-flies or *Dolichopidæ*, which are exceedingly common at the waterside, and quite worth imitating.

V. *Hemiptera.*—Many of these are purely aquatic, including the Water Boatmen, which are, no doubt, familiar to most anglers. These are fierce insects, which attack other insects, tadpoles, and small fry. They have a powerful beak which renders their attacks very formidable, and swim with a curious jerky motion, coming to the surface occasionally to take in air. They are good fliers, and on the wing look rather like a bee. The largest is *Notonecta glauca*. The elytra fold up over the body compactly "roofwise" (plate 7, fig. 72). In the water it is readily distinguished by the fact that

it swims on its back, i.e. with its legs above its body; whereas the *Corixæ* swim back up with the legs below the body.

The smaller Boatmen, of which there are about twenty species, are known as *Corixa* (plate 7, fig. 71), and their wings fold flat along their backs. They are similar in habitat to the former, largely vegetarian in their diet however. The mouth parts show an entirely different construction from those of *Notonecta glauca*, which are in the form of a hollow pointed beak adapted to piercing their prey and sucking the juice therefrom. It is curious to see a swarm of them sporting on a sunny afternoon. At first glance it looks as though a good rise of Blue Duns was going on, but closer observation will show that after a short flight they drop into the water again, and swim away amongst the water weed. Woe betide them should the trout observe their little game, which then has a tragic ending! The Water Measurers (plate 7, figs. 73–74) also belong to this class (*Hydrometra stagnorum; Gerris lacustris*). They are known to anglers as "Water Crickets," and are to be found at the margin of almost all waters. In the early season they are taken very readily by the fish before more luscious morsels are abundant. They are insectivorous, and at once attack and crowd round any small insect which alights on the water near them.

There are also illustrated two other *Hemiptera*, the Frog Hopper or Cuckoo Spit (*Aphrophora alni*), plate 8, fig. 91, which is the "Wren Tail," of Ronalds; in the summer it hides in a frothy mass on the stems of grass and plants, and in the autumn, where these are near the water, this insect sometimes jumps on to the surface by thousands. Another of the *Hemiptera* is the common Grass Bug (plate 8, fig. 88); it is singularly like the Water Measurers in general form, but is found on the grass in the pastures, and along the margins in countless numbers, and on a windy day is often blown on to the water in thousands. There is also a green one, similar in form, but slightly smaller than the one illustrated.

We will close these brief notes with a short one on the Spiders (*Araneidæ*), which occupy an intermediate position in the animal kingdom between the insects and the vertebrates. The external

differences between spiders and insects are: the number of legs—a spider having eight against six in insects; the head and thorax are in one, known as a *Cephalothorax;* the mouths are totally different, a spider has no antennæ, and no body segments, the abdomen being in one piece, and the eyes are simple instead of being made up of numerous lenses. Internally, the nervous system, the digestive organs, and circulatory systems are quite different and more highly developed in spiders than in insects. Spiders have no larval stages, their eggs are usually laid in a woven silk envelope and minute spiders emerge from these eggs and grow without any material change of form. They are numerous at the water side, and certainly deserve more attention from anglers than they have so far received.

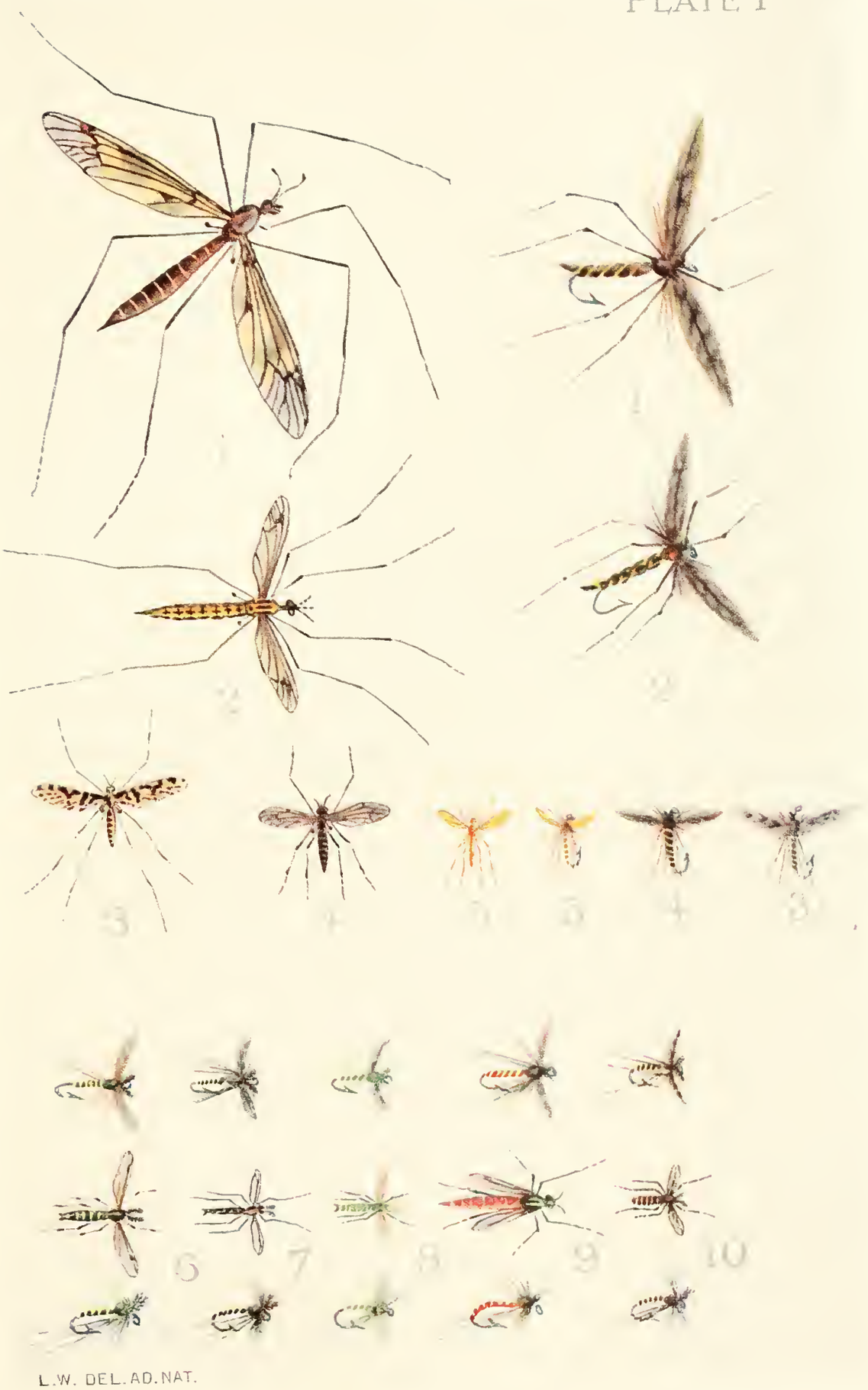
CRANE-FLIES AND GNATS.

Plate 1.

CRANE-FLIES AND GNATS.

No.	Name.	Horns.	Legs.	Thorax.	Wings.	Body.	Rib.	Notes.	Hook.
1	Large Crane-fly	——	Cock pheasant tail feather	Brown ostrich	Speckled cock	Raffia grass fawn colour	Fine gold wire	To be dressed thin and long	FH
2	Orange Cranefly	——	Cock pheasant tail feather	Black ostrich	Speckled cock	Raffia grass, orange and black	——	Body of four strands interwoven	FH
3	Evening Cranefly	——	Partridge back	Buff condor	Speckled cock	Condor quill brown	Fine gold wire	A few long legs and rest short	DF
4	Gravel Bed Fly	——	Partridge back	Dark ostrich	Rusty blue cock	Darkpeacock quill	,,	,, ,,	DF
5	Small Yellow Cranefly	——	Yellow cock	Yellow condor	Yellow cock	Yellow condor	,,	,, ,,	BD
6	Olive Gnat	Black ostrich	Coch-y-bonddu	Olive condor	Rusty cock	Olive quill	,,	,, ,,	CE
7	Black Gnat	,,	Black cock	Black ostrich	Dark blue cock	Dark quill	,,	,, ,,	AD
8	Green Gnat	Green ostrich	Cock dyed green	Green ostrich	Fine blue cock	Green quill	,,	Badger hackle for the hackle imitation	AC
9	Ruby Gnat	——	Olive cock	Olive herl	Blue cock	Ruby quill	,,		CF
10	Brown Gnat	Brown ostrich	Brown hen	Brown herl	Brown cock	Pheasant tail	,,	This gnat has a rough body	AC

Plate 1



L.W. DEL. AD. NAT.

Chapter I.

CRANE-FLIES AND GNATS.

On plate 1 are shewn typical specimens of Crane-flies (*Tipulidæ*) *and of Gnats* (*Chironomidæ*), etc.

In dressing Crane-flies it is as well to put a few turns of stiff cock hackle about the thorax to stiffen the wings and also to help the fly to float buoyantly. An excellent imitation of their long legs may be made by knotting the feather fibres as shewn on plate 1.

The Crane-flies are exceedingly plentiful and various in size and colour, although most of the larger ones are of a brownish shade, and the distinguishing characteristic of all of them is their long trailing legs, this and their single pair of wings make the group almost unmistakable. Although few of them have a true aquatic history, many of them breed in damp places, and are continually dropping on the water, or alternatively touching the surface and rising a short distance, particularly is this the case in windy weather, when they are frequently on the water in hundreds.

Many are seen on the water at times, lying with their wings out-stretched, too exhausted to lift their long legs from the surface. Some members of the family are in evidence quite early in the season, the largest come on about May, and continue to be seen till the end of the season.

The speckled one, No. 3, is often seen flying in swarms over the water in quiet corners on Summer evenings.

No. 4 is sometimes called the Gravel Spider. It is found on the gravel beds of rivers, and is often seen quietly floating down stream standing on the water; on some streams this insect swarms on the dry gravel in countless thousands about the middle of May.

No. 5 is a very common yellow variety found about the grassy or reedy margins in May and June.

No. 6 is an Olive Coloured Gnat and a great favourite with me, either the winged or hackled imitations are exceedingly successful, they float well, and dressed in various sizes to suit the different waters, are exceedingly useful lures.

It seems rather invidious to praise the Olive Gnat so much when its brethren, the black, the green, the ruby, and the brown Gnat are at hand, and each in its turn is quite capable of upholding the high opinion we have formed of the Gnat tribe as patterns well worthy of attention and careful imitation.

All these Gnats have a true aquatic history, and may be seen emerging from the pupal stage on the surface of the water, then they either take to flight or quietly drift ashore or down stream as the case may be. On a calm summer evening a Gnat on a No. 0 0 hook will often do great execution, when a more heavily dressed fly will meet with but scanty notice.

The Brown Gnat is most in evidence towards the end of the season, when it is quite a favourite.

I may fairly say that Gnats have often succeeded in taking shy highly educated fish when other lures failed; and they have turned up trumps when for a time at least, the success or failure of an expedition was in the balance.

They must be dressed on the small side and not too bushy, and we prefer a fairly heavy thorax for two reasons: first, because it is true to nature, and secondly, because the artificial so made, floats better as the herl both holds oil and increases the buoyancy of the fly by surface tension, exposing as it does innumerable fine fibres of feather. Some fly fishers may be surprised that the first chapter should be devoted to the Gnats; but the reason for this is, that they are ubiquitous, in the high mountain becks or tarns, on the water meadows, by the reservoir, or lake, or wherever trout, or other fish are to be caught, whereas many of the other flies are locally abundant only. From the early Spring to the late Autumn Gnats may be found, and a careful selection of artificial Gnats of representative colours will almost certainly provide a fly which will give sport, be the conditions ever so fine, on the one hand, or boisterous and rough on the other.

The bodies of artificial Gnats should be smooth and banded, with a lighter or darker tinge in contrast to the general colour.

The wings of most Gnats are quite insignificant, and in dressing an imitation it is usual to make it as a hackle fly only, but if desired, wings may be added,

using two fine whole cock hackle points for the purpose ; those of a pure grey blue or with a slight speckle are usually as near to nature as can be obtained.

If the contents of the stomach of trout and grayling be examined, many specimens of flies are found, but very frequently thousands of Gnats and Gnat larvæ are the principal contents.

If the fish are rising freely the fly should be used dry, or at any rate fished near the surface ; if, on the other hand, they are bulging and feeding on the larvæ, a sunk fly is more useful and efficacious, especially if dressed long in hackle and fished "lively" in the water.

Generally speaking, the early season brings forth dark coloured Gnats, and then, as the brighter, warmer weather comes on, those of the lighter and brighter colours become more abundant.

Plate 1 gives nine figures of fairly assorted colours, and each pattern given is the result of observation, careful selection, and experience. All the Gnats are drawn from life, and the artificials from patterns of proved merit.

All Gnats have *cilia* or fine hair-like processes on the body, hence the use of tinsel, as described in the chapter on materials.

There are many more Gnats and small Crane-flies than those we have described (about 400 in all), but the object of this book is to present a selection of the most useful and representative members of each class, not to enter into an exhaustive treatise on the infinite varieties of nature, which would only complicate matters and be of no practical use to the angler.

TWO-WINGED FLIES

DIPTERA.

Plate 2.

TWO-WINGED FLIES—*DIPTERA*.

No.	Name.	Eyes.	Legs.	Thorax.	Wings.	Body.	Rib.	Notes.	Hook.
11	Cowdung Fly	Red wool	Game hen	Olive herl	Blue cock points	Yellow olive herl	——	This fly varies from yellow to orange and green in colour	CE
12	Hoverer	Brown wool	,,	Warm brown herl	Rusty cock points	Yellow and black herls	——		DF
13	Small Hoverer	Red wool	Furnace hackle	Black Ostrich	,,	Black herl	Flat gold tinsel	Almost all these flies do as well dressed as hackles	BD
14	Silver and Black	,,	Black cock	,,	——	,,	Silver tinsel		AC
15	Black Cuss	Black wool	,,	,,	——	,,	——		AC
16	Green Insect	Red wool	Blue cock	Peacock sword	——	Peacock sword	——		AC
17	Green Bottle	,,	,,	Peacock sword	Blue cock points	Peacock sword	——		DF
18	Oak Fly	Green wool	Game hen	Olive herl	Woodcock	Black quill	Orange quill		DF
19	Snipe Fly	Red wool	Rusty blue	Dark olive	——	Pheasant tail	Gold rib		DF
20	Hawthorn Fly	,,	Black cock	Black ostrich	——	Black ostrich	Fine silver wire		DF
21	Silver Tail	,,	Blue cock	Peacock sword	——	Silver tinsel	——		AC
22	Small Oak Fly	,,	Coch-y-bonddu	Warm brown herl	——	Black quill	Gold rib		AC
23	Striped Hoverer	Warm brown	Yellow cock	Warm brown herl	Fine blue cock	,,	Wide gold rib		DF
24	Wood Fly	,,	Blue cock	Dark grey ostrich	Fine blue cock	Dark grey ostrich	Light grey herl		DF
25	Speckles	,,	Speckled grouse	Olive herl	——	Olive quill	Gold rib		CE
26	Bronze Fly	Red wool	Blue cock	Peacock sword	——	Peacock herl	——	Body herl to be yellowish, either dyed or selected	BD
27	Metallic Fly	,,	Furnace cock	Dyed peacock	——	Red dyed peacock	——		AC
28	Blow Fly	Warm brown	Dark blue cock	Dark Ostrich	——	Blue dyed peacock	——		FH

PLATE 2.

L.W. DEL. AD. NAT.

Chapter II.

TWO-WINGED FLIES—*DIPTERA*.

Plate 2.

As the season advances the insect world gets busier and busier, and the angler and naturalist, who, at first, have been looking with impatience for the early arrivals, in a very few weeks have to admit that they are completely overwhelmed by the number and variety of insects which are continually coming under their notice.

On this plate we have endeavoured to select a representative collection of the common two-winged flies (*Diptera*), most, if not all of which are familiar to anglers.

No. 11 is the Cowdung Fly, useful on a windy day, especially during the early part of the season ; there are several varieties,varying in colour very much from yellow to brown, green, or orange, and they are often on the water in great numbers.

Nos. 12, 13, 23 are Hoverers (*Syriphidæ*), a beautiful class of fly, in a great variety of black, yellow, and orange ; their bodies glitter like gold, particularly on the under surface, and smartness should be the keynote of their imitations.

No. 14 is a small black *Dipteron* which shines like silver, and its imitation is a distinctly successful lure on still waters. Cast well out and allowed to float without movement it has been highly successful with large shy fish even under bright windless conditions.

No. 15 is one of the "Black Cusses" (*Hilaria*), which fly over the surface of the water in clouds in May, June, and July.

The Small Green Insect, fig. 16 (*Pachygaster polita*), is first rate on a bright day, and is a sure friend under difficult fine conditions.

The Large Green Bottle, fig. 17, also does well at times, particularly under bushes.

No. 18 is the Oak Fly or Downlooker (*Leptis scolopacea*), exceedingly plentiful everywhere in some years, and again, other seasons it is almost absent; April is about its season.

Fig. 22 is the Small Oak Fly (*Leptis lineola*); it is a very smart little insect, and comes on later in the season than the larger variety, and we have found it more successful as a pattern for imitation. It has reddish legs with dark joints, well suggested by a Coch-y-bonddu hackle.

No. 19 is plentiful at the same time as the Oak Fly. It is one of the Snipe Flies (*Empidæ*), easily distinguishable by the extraordinary likeness to a snipe which its head and mouth present when viewed sideways.

In almost all good books on fly fishing the Hawthorn Fly (*Bibio marci*) is mentioned as a very excellent one to use; it is in evidence when the hawthorn trees are in bloom and as it is a very old acquaintance we give a sketch of it in fig. 20.

The next (fig. 21) is an especial favourite, and quite a successful imitation. It is the Silver Tail, and is on when the "Black Cusses" are a nuisance, and in certain

lights its abdomen is black and white, a slight movement however, and it appears of a brilliant metallic silvery lustre. I believe entomologists delight to call it *Thereva nobilata*.

The Grey Wood Fly (fig. 24) is probably known to all (*Sarcophaga carnaria*). It is useful alive to dap with, and dead as a pattern to copy. It floats well, and is quite worth imitation in various sizes.

The *Dipteron* shown in fig. 25 is very common among the rushes. We have frequently seen it taken, and have also had some success with its imitations.

Fig. 26 is a very beautiful Bronze Bottle, and a rival to the Green Insect, to which it makes a useful variety, but it is seldom seen except in bright weather, when at times it is abundant.

Fig. 27 is also a fly delighting in sunshine, and its imitations are most successful in bright weather—it is one of the *Dolichopidæ* or Metallic-flies.

Fig. 28 is the Big Welsh Blue-bottle (*Cynomya mortuorum*), useful at times, but too big for general use.

Some of the flies in this plate are found flying and sporting about the water intent on their business, others, when a moderate wind is blowing, are landed there by no wish of their own, and as a consequence the artificials are most frequently taken under these conditions. However, the bright coloured ones we have frequently found highly successful under calm conditions with bright sunshine. The Silver Tail, the Green Insect, the Metallic-fly, and a Hoverer have all met with marked success under these conditions.

MAYFLIES, &c.—*EPHEMERIDÆ.*

Plate 3.

DRAKES—MAYFLIES, Etc.—*EPHEMERIDÆ.*

No.	Name.	Eyes.	Legs.	Thorax.	Wings.	Body.	Rib.	Tails.	Notes.	Hook.
29	Green Drake	Brown wool	Partridge back	Brown wool	Dyed duck	Raffia grass	Pheasant tail fibre	Pheasant tail	The wing feathers to be fine in the mottle	G1
30	Dark Drake	,,	,,	,,	Mallard or partridge back	,,	Pheasant tail fibre	,,		G1
31	Yellow Dun	——	Iridescent	——	Dyed duck	Yellow quill	Gold twist	Golden Pheasant	Iridescent means yellow, red, and green mixed	FH
32	Turkey Brown	Red wool	Partridge	——	Partridge back	Brown quill	,,	——		EG
33	Sulphur Dun	Brown wool	Game hen	——	Thrush back	Condor quill dyed yellow	Dark silk	Golden Pheasant	Several other small birds have smoky yellow feathers suitable for wings	EG
34	Brown Spinner	,,	Iridescent	——	Pale starling	Brown quill	Gold twist	Golden pheasant		DF
35	Brown and Yellow Spinner	Red wool	,,	——	,,	Dark quill at ends, light in centre	,,	Fibres of brown mallard		DF

PLATE 5

L.W. DEL. AD. NAT.

Chapter III.

MAYFLIES, &c.—*EPHEMERIDÆ.*

Plate 3.

The Green Drake (fig. 29) is so well known to anglers that it requires little attention here. It is remarkable for its long sub-aquatic larval existence—usually stated as three years, and then a life of proverbial shortness in its perfect state, and such a life at that, hunted by fish until it flies away, then pursued by chaffinches, fly catchers, swallows, and a dozen other members of the feathered tribe. What with the pollution of our rivers, and its multitude of natural enemies, this fly is, we fear, doomed to extinction. Good floating imitations of the species have probably accounted for some of the largest trout which have been taken with the artificial fly.

The Dark Drake (fig. 30) is not considered as generally successful a lure as the Green Drake, though it has its advocates, and on a dull windy day we prefer it to its brighter companion.

The Yellow Drake (fig. 31) is a beautiful insect, we have seen it rising in numbers on the Tanat and Vyrnwy in the late Summer and Autumn, and it is taken greedily by both trout and grayling.

Fig. 32 is the Turkey Brown, and is used with success in the North of England ; it is a very elegant insect, and abundant about the end of April.

Fig. 33, the Sulphur Dun, appears later in the season, is abundant in July and August, and is a favourite with the fish tribes.

Fig. 34, the Copper Spinner, is a handsome insect, and well worth attention.

Fig. 35 is very abundant in June, and either dressed as shewn, or with a body light coloured at the tail, and dark towards the thorax, is a distinct success.

The Drakes recall glorious days with big fish and sunshine and a merry breeze, and again, squally winds, rough waters, and disappointments, but, running through all associations is one of longing to be there again and put one's skill and luck to the test once more, and a feeling of certainty that on the next occasion greater success and better sport would be certain to result from one's efforts.

Although a pleasure may be ephemeral, the joy of anticipation is considerable, the preparation for an excursion, when word is sent that the Mayfly is up, s great, and the memory of such is a joy which lasts to the end of one's life.

DUNS, SPINNERS, &c.—*EPHEMERIDÆ.*

Plate 4.

DUNS, SPINNERS, Etc.—*EPHEMERIDÆ.*

No.	Name.	Eyes.	Legs.	Thorax.	Wings.	Body.	Rib.	Tails.	Notes.	Hook.
36	March Brown	——	Partridge and red cock	Brown herl	Hen pheasant or bittern	Brown quill	Gold tinsel	Cock pheasant	Bittern, partridge or quail wings do well at times	CG
37	Early Olive Dun	Red wool	Olive cock (dyed)	Olive quill	Starling (dyed)	Olive quill	,,	,,		BD
38	Small Red Spinner	Yellow	Iridescent	Sienna quill	Pale starling	Burnt sienna quill	,,	,,	Red, yellow, and green hackle	BD
39	Red Spinner	Brown wool	,,	,,	,, or blue hackle points	Burnt sienna quill	,,	,,		CF
40	Yellow Tail Spinner	,,	,,	Dark brown	Pale starling	Yellow and dark brown quill	,,	Golden pheasant		BD
41	Green Dun	Green wool	Green cock	Dark green	Medium starling	Green quill	Gold wire	Green cock		AB
42	Green Spinner	,,	Iridescent	Olive green	——	Dark olive	,,	Golden pheasant		AB
43	Olive Dun	,,	Olive cock	Olive quill	Pale starling	Olive quill	,,	Olive cock		BC
44	Olive Spinner	Dark olive	Iridescent	,,	,,	,,	,,	,,		BC
45	Jenny Spinner	Red wool	,,	Black ostrich	——	White horsehair	——	Blue cock	A touch of red wool at tail	AB
46	Medium Olive Dun	Green wool	Olive cock	Olive quill	Olive starling	Olive quill	Gold wire	Olive cock		BC
47	Pale Evening Dun	Dark green	Blue cock	Ostrich	Medium starling	White horsehair	——	Blue cock		AB
48	Dark Olive	Green wool	Dark olive	Dark olive	Dark olive starling	Olive quill	——	Olive cock		BC
49	Whirling Blue Dun	Red wool	Palest olive	Pale olive	Medium starling	Pale olive	Gold tinsel	Cock pheasant		DF

PLATE 4

L.W. DEL. AD. NAT.

Chapter IV.

DUNS, SPINNERS, &c.—*EPHEMERIDÆ.*

Plate 4.

The first to claim the would-be angler's attention, and one which has probably been more successfully imitated and generally used than any, is the March Brown shewn in fig. 36. There are several varieties which go by this name, and they vary considerably in size and shade, but the general characteristics are the same, mottled wings, yellow and brown body, and long tails. It is dressed in all sizes, from the smallest trout to salmon fly, and being typical of a mottled insect, does equally well in all.

At times a variation in pattern kills better than the normal pattern, a gilt body is useful on a bright day, and a dyed claret hackle is a useful addition in a high water.

Fig. 37 is an Early Olive Dun, and being of a typical insect colour, does equal execution to the March Brown, and appears early in April. After a few days it changes into a Brown and Yellow Spinner, as shewn on fig. 38.

Fig. 39 is the Large Red Spinner, which is the imago of the March Brown. We were never satisfied with the success of the dressing of the Spinners, either as imitations or lures, until we hit on the device of using various bright coloured hackles to suggest the colour of their wings; in this way a suggestion of the beauty of this iridescent effect may be obtained, and the result has quite justified the experiment. By coloured hackles are meant fibres of

bright glassy hackles, dyed red, yellow, green or violet, but these must be used carefully to obtain the desired effect—a preponderance of any one colour will ruin the effect. Good glassy grey cock hackle points make very effective wings, either dressed upright or spent wise.

Fig. 40 is the Orange Tailed or Autumn Spinner, and a successful lure late in the season.

Fig. 41 is the Small Green Dun, very abundant at times on the Tanat, and one with which we have had great sport on several occasions.

Fig. 42 is the Spinner, noticeable at the same time, and equally useful.

Figs. 43 and 44 are a Pale Olive, and its Spinner always useful when in doubt what to try.

Fig. 45 is the Jenny Spinner, which is one of the varieties of doutbful success, coming on when insect life is rife, the fish sorely pressed by anglers ; being very small in size, many fish are pricked and few caught with this imitation as a rule.

Fig. 46 is the Medium Olive Dun, a well tried and established favourite.

Fig. 47 is the Pale Evening Dun, which rises in countless myriads from many waters, and is quite a success at times, but it must be dressed small.

Fig. 48 is a Dark Olive Dun, preferable to its lighter brethren when dark clouds over-cast the sky.

Fig. 49 is the Whirling Blue Dun, which, by the casual observer, is sometimes mistaken for a March Brown on account of its size and dusky upright wings.

We have great diffidence in saying much about the *Ephemeridæ*, as so much has been written already by various writers, but we venture to believe that the dressings of the Spinners will find favour with, at least, some of our brother anglers. We have had our dressing tested by several good dry fly men, who report favourably on it.

The general mistake amongst writers on the subject is to magnify the importance of this class of flies to the exclusion of almost all others.

There are only forty varieties of *Ephemeridæ* generally recognised as indigenous in this country, and considering the many other species which also have a true aquatic history and wide distribution, we consider, from the angling point of view, that this is a great mistake, and at times is highly detrimental to the sport to be obtained with an artificial fly.

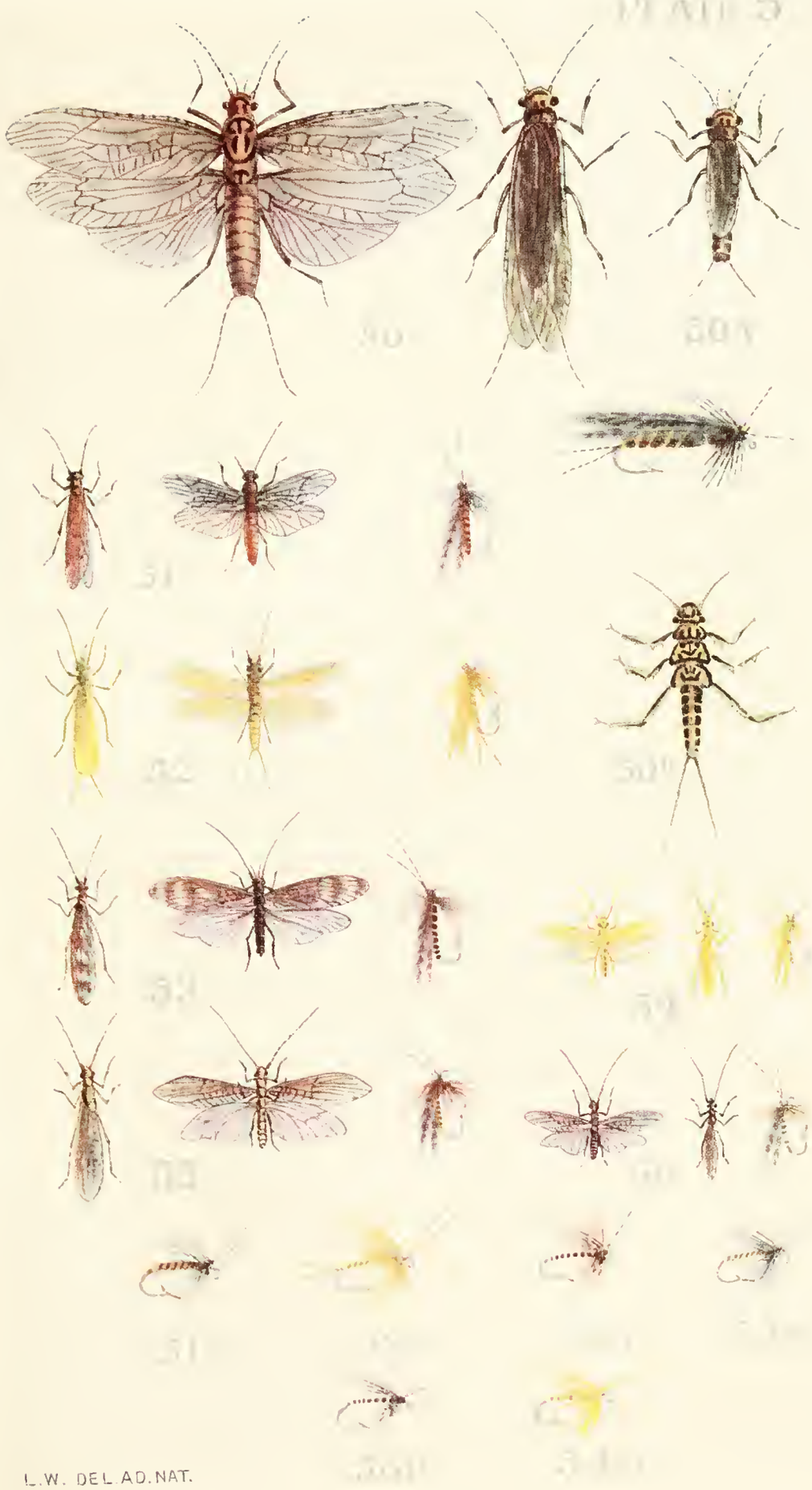
Unfortunately the custom very largely prevails of dressing almost all artificials "up winged," and this is one reason why so few anglers have a just sense of proportion with regard to the proper place of the *Ephemeridæ* in the equipment of the fly fisher.

STONE FLIES.—*PERLIDÆ.*

Plate 5.

STONE-FLIES.—*PERLIDÆ.*

No.	Name.	Eyes.	Legs.	Thorax.	Wings.	Body.	Rib.	Tails.	Notes.	Hook.
50	Stonefly	Yellow wool	Brown partridge	Olive raffia grass	Mottled blue cock hackles	Dark olive raffia over yellow wool	Yellow wool showing thro'	Cock pheasant		GJ
51	February Red	Brown wool	Rusty blue cock	Brown quill	,,	Burnt sienna quill	Quill edge	Partridge	Horns, not tails	CE
52	Yellow Sally	Olive wool	Yellow cock	Olive quill	Pale yellow cock	Pale yellow quill	,,	Yellow cock	,,	BD
53	Early Brown	Brown wool	Rusty blue cock	Brown quill	Mottled blue cock	Brown quill	Gold wire	Partridge	,,	BD
54	Small Yellow Sally	Yellow wool	Yellow cock	Yellow quill	Pale yellow cock	Pale yellow quill	,,	Yellow cock	,,	AB
55	Willow Fly	Buff wool	Pale rusty blue	Buff quill	Mottled blue cock	Pale buff quill	Quill edge	Partridge	,,	BD
56	Dark Needle	Brown wool	Rusty blue cock	Dark quill	Mottled dark cock	Dark brown quill	Gold wire	,,	,,	AB
51H	February Red	——	Brown partridge and rusty cock	——	——	Burnt sienna	Quill edge	,,	,,	CE
52H	Yellow Sally	——	Pale Yellow cock	——	——	Yellow quill	,,	Golden pheasant	,,	BD
53H	Early Brown	——	Brown partridge and rusty cock	——	——	Brown quill	Gold wire	Partridge	,,	BD
54H	Small Yellow Sally	——	Pale yellow cock	——	——	Pale Yellow quill	,,	Yellow cock	,,	AB
55H	Willow Fly	——	Rusty blue cock	——	——	Buff quill	Quill edge	Partridge	,,	BD
56H	Dark Needle	——	Rusty blue or dark snipe	——	——	Dark brown quill	Gold wire	,,	,,	AC



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Chapter V.

STONE FLIES—*PERLIDÆ*.

Plate 5.

The Large Stone Fly shown in fig. 50 (the female insect) is the *Mayfly* of the North of England, and a great favourite with most anglers, though more used in its natural state than as an artificial.

The male insect, or Jack, with short wings, is shown on fig. 50*a*; two of these are frequently used on one hook. The larvæ of the *Mayfly* or Creeper, shown on fig. 50*b*, is frequently used in April and May as a lure, and fished up stream in rapid water in the manner favoured by up-stream worm fishers.

The February Red (fig. 51) is a very useful fly (early in the season particularly so). The body is a rich burnt sienna colour, and the wings dark grey, which when held up to the light have a fine reddish brown running through them.

The Yellow Sally (fig. 52) is a great favourite of mine, and does exceedingly well when dressed finely with good glassy wings, heavy woolly imitations of this fly being worthless.

The Early Brown (fig. 53) is something like the February Red, but has a dark body and wings with a more marked mottle in them.

The Small Yellow Sally (fig. 54) is another favourite, though for a time its imitation was my despair. How-

ever, dyed gut or condor quill as a body, and really glassy hackle points for the wings and legs, have proved the undoing of many trout since then.

The Willow Fly (fig. 55) comes on later in the season. It is seen flying in the sunshine at times in thousands, gently drifting before the wind, and is also a great favourite. For grayling a small orange tag representing the egg sac of the female fly is a useful addition.

The small Dark Needle Fly (fig. 56) is found in abundance on most stony streams, and is the last type we propose to show of this interesting and useful family of flies.

Unfortunately, in the English language, there is no book giving a complete account of the *Stone Flies* (*Perlidæ*), though some work has been done by members of the Ray, Linnean, and other societies, and it is stated that there are about thirty varieties indigenous to this country. As their name suggests, all frequent stony rapid streams, and in consequence their imitations are of the highest importance to anglers in the upper waters of our rivers.

They hatch out as early as February, and some members of the family are with us until after the angling season closes. The sight of this plate recalls many happy days of glorious success with baskets of fine fish, taken with the Large Stone Fly when the elements were capricious and anything but favourable, also when the conditions were fine and bright, and the fish were taken from amongst the stones, almost on the gravel beds, as well as when offered in the heavier streams amongst the rocks.

The Yellow Sally recalls still wilder scenes amongst the moors ; climbs past waterfalls ; the stalking of the spotted beauties in the pools ; and the trudge home again in the dusk, wet, tired, and hungry, but withal happy and contented—the cry of the plovers and curlews and a host of other sights and sounds far from the madding crowd—I have been and still would go !

The Willow Fly recalls lower reaches mostly, warmer weather, and balmy Autumn afternoons with a blue haze and a yellow sun, and fine mixed baskets of trout and grayling.

All the *Perlidæ* are old friends, however, and it seems invidious to mention one without saying something pretty of each in turn.

These flies look very important on the wing, but when at rest, comparatively small, owing to the close way in which the wings are folded up.

Theakston calls them " Browns " owing to the brown colour which appears when they are viewed against the light, principally due to the reddish brown tinge of the nervures of the wings.

Hackled imitations which are frequently highly successful are shown, but these must be dressed on very small hooks (for the upper waters especially).

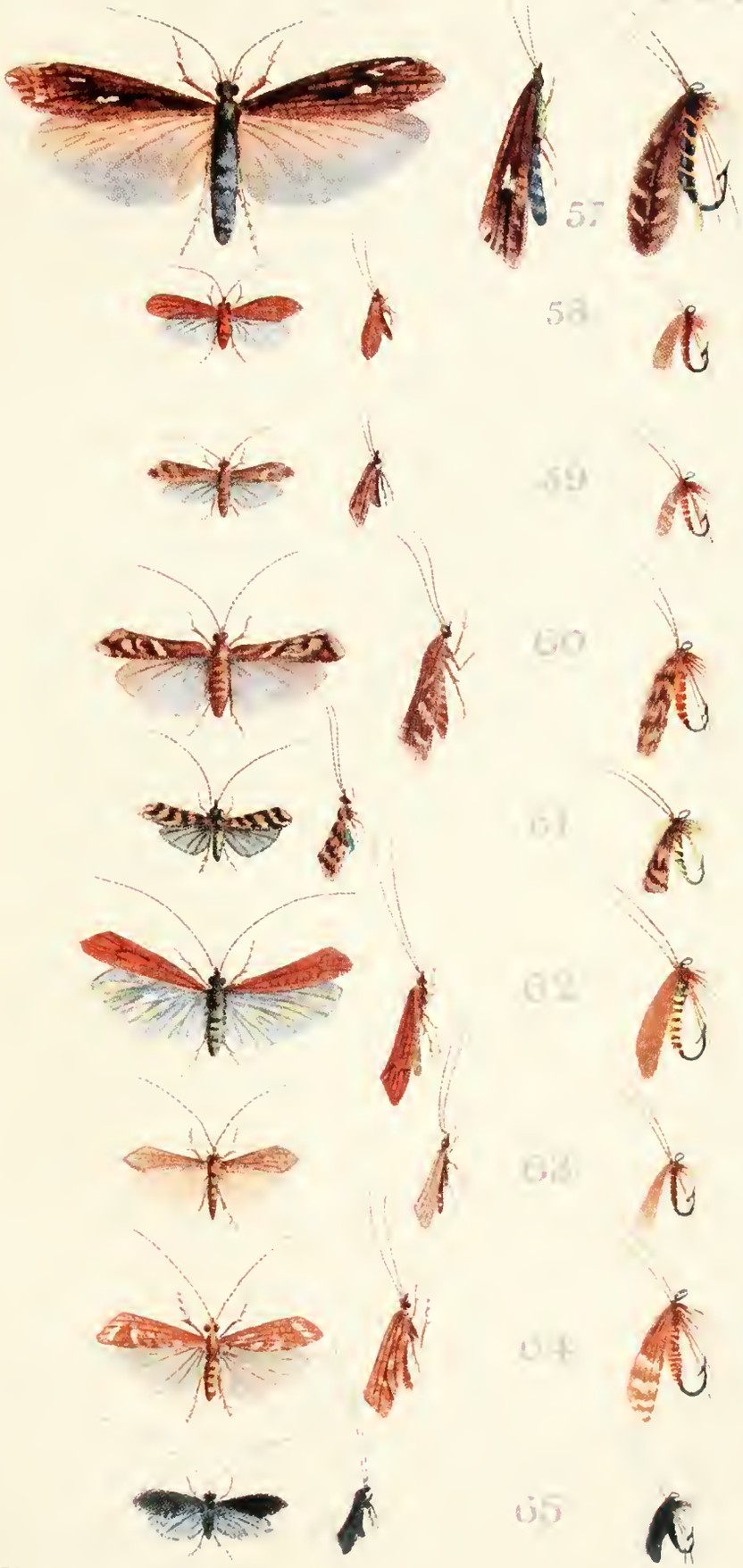
SEDGE FLIES.—*TRICHOPTERA.*

Plate 6.

CADDIS FLIES. SEDGES.—*TRICHOPTERA*

No.	Name.	Legs.	Wings.	Body.	Rib.	Horns.	Notes.	Hook.
57	Bustard	Coch-y-bonddu	Quail, owl or pheasant, bustard or bittern	Dark plum mohair	Yellow wool	Cock pheasant	Use two small quill feathers to support the wings	LL
58	Corncrake Sedge	Game hen hackle	Corncrake or hen	Bronze pheasant tail	——	,,		AC
59	Speckled Buff Sedge	Game hen	Woodcock or partridge	Turkey quill	Quill edge	,,		AC
60	Mottled Cinnamon	Furnace cock	Woodcock or bittern	Cock pheasant	Yellow wool	,,	Leave a few long fibres in the legs of all Sedges	EG
61	Grouse and Green	Game hen	Yellow and black grouse	Green wool	Gold wire	Mallard		BD
62	Cinnamon Sedge	Cinnamon hen	Jay, landrail or sheldrake	Green dyed condor (unstriped)	,,	,,		EG
63	Buff Sedge	Game hen	Hen pheasant or buff hen	Pheasant tail or turkey	——	,,		CE
64	Pale Cinnamon Sedge	Dark game hen	Landrail mottled	Pheasant over yellow wool	——	,,		EG
65	Silverhorn	Black hen	Duck, pheasant neck or grouse tail	Wool or condor black	——	Teal		AC

PLATE 8



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Chapter VI.

SEDGE FLIES—*TRICHOPTERA.*

Plate 6.

On plate six are shown nine specimens of Caddis-flies or Sedges as they are commonly called by anglers. It is somewhat difficult to choose which are best as types, out of the two hundred and fifty species indigenous to this country, however, those shown are all thoroughly tried and tested old friends, and may be taken as fairly representative.

Fig. 57 is the largest species (*Phryganea grandis*), and is the Bustard of the north; there are several other species about three quarters the size of this, with brownish speckled wings, but the form and general colour is much as in the specimen shown.

Fig. 58 is called by Ronalds "Corncrake and Orange," and is a capital lure when dressed small.

Fig. 59 is very like a small Clothes Moth, and is also a very good lure.

Fig. 60 is a much more showy insect and eagerly taken but never occurs in such numbers as the two last named.

Fig. 61 is one of the very commonest Sedges, and is often called "Grouse and Green." Entomologists name it *Leptocerida longicornis.*

Fig. 62 is a very beautiful insect, and very plentiful at times. It is of a rich cinnamon colour when first hatched, but after a few hours the colour fades to a dull brown.

However, its imitation with wings from a sheldrake, jay, or other cinnamon feather does little better than one dressed with the more sober coloured feather of the French partridge or bittern.

Fig. 63 is a useful pattern for two reasons—First, it is a common insect ; and secondly, it is very like another common insect, which gets on the water in great quantities at times, namely, the small Grass Moth, which is so plentiful in meadows when the grass is getting long and for several weeks after.

Fig. 64 is another of the very elegant species (*Limnophilus lunatus*), and not one of the most numerous, but taken with avidity when it does hatch out.

Fig. 65 is the Silverhorn, which is typical of half a dozen species ; it may be seen in clouds at times, hovering busily over the water, and is quite worthy of the angler's attention. Some species have dark dusky wings, in others a strong sheen is observable, usefully imitated by the shiny green feathers from a drakes wing, Impeyan pheasant, or the blue neck feather of a cock pheasant.

One curious feature of the Sedges is that the bodies of the males and females in several species are almost complementary in colour, the male reddish brown and the female green, or *vice versa*, and with different localities we also observe a considerable difference in the depth of the colour of both wings and bodies.

As a rule the northern specimens are darker than those taken from more southerly rivers.

The Caddis-flies recall many captures of large baskets

of fine trout on the Eden and other northern rivers with the Bustard. We are aware that the modern dry fly man may turn up his nose at such practices, but, I can assure him, that to be alone on a dark night in a wild region, on a river with which one is only partially familiar even in daylight, is a weird experience; the cry of the curlew, the mournful plaint of the peewits, the rasping call of the landrail, the woeful shrieking and hooting of the owls, the whirring of the night-jars, and the calls of numberless other birds, to say nothing of the unexpected bark of a fox, or a splash of an otter, are calculated to make a lasting impression on even the most stolid.

Then the mist rises, sounds gradually die away, the light shimmers on the water, and in a very short time the green and gold, pink and crimson of sunrise appear, and larks, blackbirds, thrushes, and other songsters burst into a pæan of praise, the mystery has disappeared, and there only remain a few short hours of coolness before the heat of another Summer day.

Again the day draws to a close, and a wild head-long rise takes place, not a placid dimpling, but an eager haste to absorb something as yet unseen.

By very careful watching and examination it may be found that there are thousands of minute *Trichoptera* skating about on the water; at such times a small imitation of patterns 58, 59, or 60 will be found invaluable though these patterns also do well at times other than the close of day.

The afternoon rise on fine, sleepy, warm afternoons

is frequently due to a hatch of Caddis-flies, and the plop of a big trout by the edge of the rushes, is frequently the death knell of a big Caddis-fly.

The larvæ of this family are the familiar Caddis-worms encased in sticks, stones, or leaves, cemented together. They are very good scavengers, feeding on animal matter, but do not hesitate to attack fish fry whenever opportunity offers. The Dragon-fly larvæ are their *bête noire,* the long spear with which they are armed, proving a capital weapon for poking the Caddis-worm out of the protecting sheath.

A good deal has been said about the transportation of natural flies to newly made fisheries. The family which lends itself more than any other to such planting is the one now under discussion—we have on various occasions very successfully introduced several species into waters where they did not previously occur, and being very prolific they soon form an important addition to the food supply.

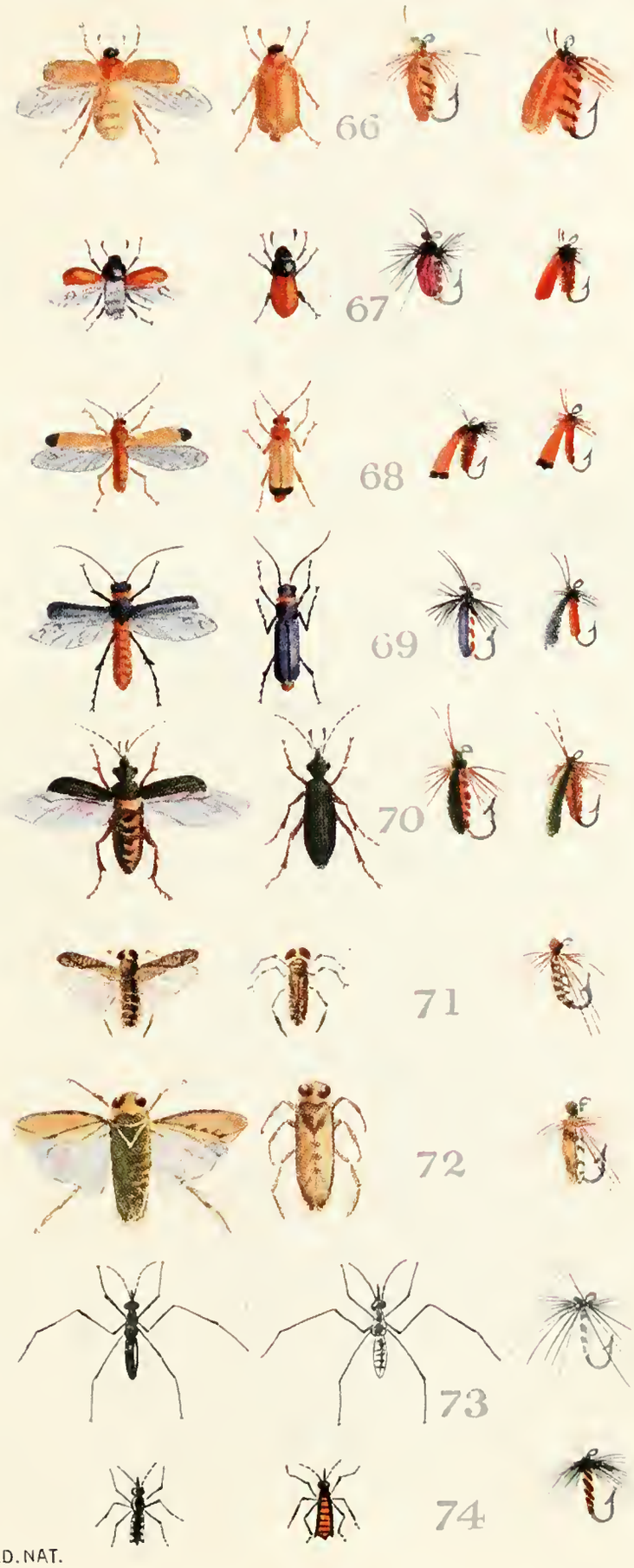
BEETLES, &c.—*COLEOPTERA, &c.*

Plate 7.

BEETLES, Etc.—*COLEOPTERA, Etc.*

No.	Name.	Horns.	Legs.	Thorax.	Wings.	Body.	Rib.	Notes.	Hook.
66	May Bug	Golden pheasant tippet	Coch-y-bonddu	Black ostrich	Cinnamon partridge	Buff wool or mohair	Peacock herl	May be dressed winged or beetle-wise	EG
67	Cowdung Beetle	Black ostrich	Black hen	,,	Red macaw	Peacock herl	Gold wire	,, ,,	AD
68	Soldier Beetle	Mallard	Furnace or black cock	Red ostrich	Golden pheasant tippet	Red condor or peacock herl	——	This beetle is also called a Fern Web Fly, Bracken Clock, Coch-y-bonddu, and Marlow Buzz	AD
69	Sailor Beetle	,,	Black hen	Blue condor	Duck or macaw	Red condor	Gold wire		AD
70	Earth Beetle	,,	Furnace cock	Green blue duck	Green blue duck	Peacock herl	,,		CE
71	Corixa	——	Game hen	——	Bustard	Silver tinsel	Dark cotton	Brown wool eyes	BD
72	Water-Boatman	——	,,	——	Bittern or woodcock	,,	,,	,,	DF
73	Water Measurer	Teal fibres	Black cock	——	——	Black grouse	Silver tinsel	Body thin and silver under side and black back	DF
74	Water Cricket	,,	,,	——	——	Orange	Ostrich herl		DF

PLATE 7.



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Chapter VII.

BEETLES, &c.—*COLEOPTERA, &c.*

Plate 7.

Fig. 66 is sometimes popularly called a May Bug, naturalists name it *Serica brunnea*. In some seasons it is exceedingly abundant, and large trout and also chub take it freely fished floating in deep waters; its size commands an amount of attention which would not be paid to a smaller lure.

Fig. 67 is the common Cowdung Beetle (*Aphodius fœtens*). It is abundant everywhere, and is frequently seen on the wing, particularly on bright days.

Fig. 68 is the familiar Soldier Beetle of our boyhood (*Telephorus lividus*), and is very common in June on umbelliferous plants; an almost exact imitation of the elytra may be made, as shown, from the "tippet" feathers of the golden pheasant. Some beetles of this family have red bodies, in others the colour is much darker. By some, this beetle is called the Fern Web, and, dressed as shown, it does well on bright days, and will float any length of time if oiled.

Fig. 69 is the Sailor Beetle (*Telephorus rusticus*) which is strongly in evidence about Whitsuntide. It has blue *elytra* (wing cases), and in general form is similar to the Soldier Beetle.

Fig. 70, the common Earth Beetle (*Elaphrus*

cupreus), plentiful under stones, among decayed leaves, and many other places. It is frequently washed into the water, and is eagerly taken by all fish.

Fig. 71 is not a beetle, but one of the aquatic *Hemiptera* or Water Boatmen (*Corixa striata*), whose jerky method of swimming is doubtless familiar to all. In April it frequently takes to the wing, and on warm days may be seen alternately flying and swimming about in the still margins, its revels being interrupted by the dash of a hungry fish.

Even trout fry will attack it with ferocity, and when one is disabled by the loss of a paddle, will crowd round and finish it amongst them.

Fig. 72 is another of the same genus (*Notonecta glauca*), also esteemed a dainty by the trout. I do not like the paddles with which the imitation of these species are sometimes furnished, as they act as spinners, and quickly ruin a fine gut cast. A few fine long legs which have not this objection we have found equally efficacious.

Fig. 73 (*Gerris lacustris*) is often erroneously called a Water Spider, though it is more properly known as a Water Measurer (*Hydrometra*). It is common everywhere, and is on the water from the early Spring onwards, and, before more luscious morsels are to be had, is taken with avidity.

Fig. 74 is another of the same species (*Velia currens*), and known to anglers as the Water Cricket. It is an excellent "fly" in the early part of the season —I have known trout to refuse a March Brown, a Blue

Dun, and other favourites, and yet take the Water Cricket freely even with *drag on.*

Of beetles generally, I should say they are most useful on sunny days, when there is no particular rise of flies going on, and when fishing still glassy water. I have at times done exceedingly well with them—to be successful, however, they must be dressed small, except for very deep water. They float well, and shy old trout which know the appearance of many artificials will, at times, fall a prey to one of the beetles.

It may be that even trout tire at times of the succulent dun, and are then tempted to their undoing by the opportunity of indulging in a more substantial morsel.

If, when trying a beetle, the result is a number of wild splashing rises, it shows that interest has been excited, and a change to a smaller beetle, or even to a dun, and going over the same water, will frequently achieve success where before not a rise was to be obtained.

The artificial Coch-y-bonddu has been a favourite lure from time immemorial, there is, however, considerable confusion amongst anglers and writers alike as several species in different localities are known by this name, if, however, we discard the Welsh name and simply speak of a red and black beetle, the various accounts given by different authors are clear. At present obviously several species are described, of different habitats and appearing at different seasons. Rather curiously the beetle frequently claimed as the original proto-type is *Phyllopertha horticola* which in a few localities appears in June or July in countless thousands amongst the bracken, it is not red and black really, but has ruddy brown Elytra and

bronze-green thorax and is about three eighths of an inch long. At Bala and Tal-y-Cafn it abounds, in the Vale of Festiniog the red Cowdung Beetle (*Aphodius foetens*) is known as a " Coch-y-bonddu " and it certainly answers the description of " black and red " at least as well as the first named, neither of these, however are the button-shaped beetle described by some authors as a " Coch-y-bonddu " the *Chrysomela* and *Cocinnella* however tally to this description and are red and black. The only way to dispel the confusion once and for all is to dress exact imitations of each species or think of Coch-y-bonddu simply as a typical dressing of any red and black beetle. On the type plate are given the principal " red and and black " beetles.

The fact that nature provides so exact a counter-part of the *elytra* of the Soldier Beetle, in the tippet feather of the golden pheasant, seems to have escaped the notice of most. We have taken fish after fish with this imitation when the conditions were distinctly unfavourable to sport—being too bright and calm.

One of the first trout I ever caught was taken from a small stream—more years ago than I care to remember. Going out fishing without bait I began grubbing in a meadow to find some, all that came to hand being two or three small Cowdung beetles. Putting one on, I crawled to the brink and dropped it cautiously in at the head of a stream, where it was instantly seized by a lusty half-pounder, which, after a brief struggle, was ignominiously swung on to the bank. Such an experience makes one greet these small beetles as friends whenever they come under notice. The capture of trout in those days was like " angels' visits "—few and far between.

VARIOUS FLIES.—*HYMENOPTERA, &c.*

Plate 8.

LACEWINGS—ICHNEUMON FLIES, Etc.

No.	Name.	Horns.	Legs.	Thorax.	Wings.	Body.	Rib.	Notes.	Hook.
75	Green Lace-wing	Dyed teal	Dyed cock	——	Cock dyed green	Condor dyed green	Gold wire	Bright red wool eyes	CE
76	Blue Lace-wing	Teal	Blue cock	——	Blue cock points	Grey quill	——		AB
77	Yellow Lace-wing	Yellow cock	Yellow cock	——	Yellow cock points	Yellow quill	Gold wire		AB
78	Sweep	Black cock	Black cock	Black ostrich	——	Short black ostrich	Silver wire	An odd turn of iridescent hackle at the shoulder	CE
79	Yellow Nematus	Teal	Game hen	——	——	Mohair yellow	Brown wool		CE
80	Alder	,,	Black hen	Black ostrich	Mottled blue cock	Peacock dyed brown	——		DF
81	Xyloto	Mallard	Coch-y-bonddu	,,	Blue cock points	Dyed raffia grass	Gold wire	Body should be coated with celluloid varnish	DF
82	Hylotoma	Red cock	,,	——	——	Orange mohair	,,		CE
83	Ichneumon	Red cock or tippet	Golden pheasant tippet	Red quill	Cock points	Red quill	——	A few iridescent fibres at the shoulder	DF
84	Sand Wasp	Black cock	Game hen	Black ostrich	,,	Black quill	Yellow mohair	Quill is wrapped over the mohair	CE
85	Ruby Wasp	——	Rusty blue cock	Blue peacock	——	Peacock dyed red	——		CE
86	Green Ich-neumon	Blue cock	Blue cock	——	——	Pale green quill	Black wool	Quill wound over the wool	AC
87	Autumn Green	——	Pale red cock	Quill green	——	Pale green quill	,,	,, ,,	AC
88	Grass Bug	Brown mal-lard	Brown hen	——	——	Bittern fibres	Silver and black		BD
89	Green Aphis	——	Iridescent and green	——	——	Yellow and green wool	——	This fly is drawn larger than to scale	AB
90	Green Bug	——	Paraquet	——	——	Yellow blue macaw	——	Tag Indian crow	BD
91	Wren Tail	——	Brown hen	Brown ostrich	Woodcock and starling	Brown ostrich	——		BD

PLATE 8
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Chapter VIII.

VARIOUS FLIES—*HYMENOPTERA, &c.*

Plate 8.

This plate might aptly be called "mixed pickles," as shown thereon, is a variety of insects of various tribes and species, all of interest to anglers, either as types or foundations for "fancy flies," and because they are all met with frequently in considerable numbers by the waterside.

Fig. 75 is the beautiful Green Lacewing (*Hemerobius alba*), with gorgeous wings, and yet a moderate flier. It is known to anglers as "the Golden-eyed Gauze Wing," and usually appears about July, when it is frequently seen on the water with wings extended.

Fig. 76 is the small Blue Lacewing (*Hemerobius nervosus*), which is at times seen fluttering over the water in a cloud, and from its hovering flight may be taken for a Caddis-fly, but the smooth, shining, closely nerved wings at once disclose its identity on closer inspection.

Fig. 77, the small Yellow Lacewing (*Hemerobius hirtus*), is common in the latter part of the season, particularly where there is bracken about, and its imitation is frequently a successful lure.

Fig. 78, of which I know no popular name, is *Nematus niger*. It is sometimes wrongly called the Hawthorn Fly, and is abundant everywhere about April and May.

Fig. 79 is *Nematus lucidus*. It is to be seen sitting on the rushes from April to September, and on windy days especially is a lure worth trying.

Fig. 80 is the Alder Fly (*Sialis lutaria*), which sitteth on the fence when not buzzing about the water. At times it is an irresistible lure, and again at other seasons, the fish positively won't look at it, but generally speaking, it is held in high esteem by anglers, particularly as an evening fly.

Fig. 81 is a beautiful insect; it is very widely distributed, and I have frequently seen it taken by trout (*Ctenichneumon extensorius*).

Fig. 82 is *Hylotoma pagana*. It appears about August, and for a time is exceedingly abundant, but has a short season only, during which, however, it is useful on a windy day.

Fig. 83 is a Common Ichneumon (*Pachymerus calcitrator*), the Orange Fly of Ronalds, and is most useful in wooded streams, where it seems to get on the water very frequently.

Fig. 84 is one of the small Wasps (*Allantus arcuatus*), and is found alongside the Soldier Beetle on the flowers of the hemlock and other umbelliferous plants. It is very highly spoken of as a lure, on some Welsh rivers especially.

Fig. 85 is one of the most beautiful flies indigenous to this country. It is the Fire Tail (*Chrysis ignita*), and is an enemy to the solitary wasp in whose nests it lays its eggs, the larvæ, on hatching out, preying on the young wasps. It is quite common, but so quick on

the wing, that it is most difficult to catch. It delights in sunshine, and its brilliant colours which change with every movement—now red, now green, now blue—are beautiful in the extreme. On bright days we have done well with its imitation in deep waters.

Fig. 86 is another Ichneumon fly (*Green nematus*). It is very common, and appears about June and after. It is a fine green colour, and makes a capital lure.

Fig. 87 is a *Dipteron*, which appears regularly in August (*Oxycera trilineata*). It is another beautiful fly, and its fine blending of green and black and red make a very fine and alluring combination in an artificial.

Fig. 88 is the Grass Bug, one of the *Hemiptera*. It appears in thousands in some localities when the grass is getting long, and on a windy day is well worth trying.

There is also another of this species, slightly smaller than the brown one here figured, it is green in colour.

Fig. 89 is a small Green Aphis, similar to those found on rose trees. It often occurs in countless numbers on marginal plants and bushes, and a strong gust of wind blows it on to the water, often causing a wild rise of trout, grayling, and other fish.

Fig. 90 is another of the *Hemiptera*, getting on the water in numbers under similar conditions. Its delicate combination of green and red suggested a fly which has been described by some as a "marvel," it certainly deserves to be classed as "useful."

Fig. 91 is the largest of the Spit Insects, or Frog Hoppers. In the Autumn it jumps off the marginal plants into the water in great numbers, and frequently the fish rising along the edge, are quietly taking this fly.

The only fly shown on this plate which has a true aquatic history is the Alder Fly, and yet all the others are continually met with at the waterside, and there are slack times when considerable success may even attend the use of an uncommon fly.

There may be a north or east wind, or the hatch of aquatic insects may be stopped by a fall of temperature, then the long shore insects, deprived of their customary alertness and briskness by the cold and lack of sunshine, are carried over and drop on to the water, the fish being only too glad to supplement their food supply with these unaccustomed dainties.

The appearance of a strange insect on the water immediately stimulates the curiosity of the fish, and if an imitation is only really life-like, and offered in a presentable manner, it will command a measure of success.

The *Sockdolager,* in his reedy haunts, has a knowledge of entomology, which puts to shame that of most anglers, and no doubt considers himself a connoisseur in the matter of insect dainties.

One has only to lie hidden from view and feed an old trout with different insects, and watch the judicial air with which he takes the strange ones and gently tastes them, to be convinced of this fact.

It has seemed to me that as the Autumn comes on

green insects are much to the fore, and greenish imitations are well worth trying. There are quite a number of green *Hemiptera* and *Aphidæ*, to say nothing of the other families which have numerous green species.

One Autumn afternoon I was wading a long reach of gravel bed, and not a fish was seen rising, then a sudden squall struck the trees, and immediately fish were rising by hundreds. Careful watching revealed the fact that on the surface of the water were thousands of small green insects, as shown on figures 89 and 90.

The angler who has his wits about him is ever on the look out for what is going on around him, and is quick to turn chances like that just mentioned, to immediate advantage.

I hope these remarks have justified the inclusion of this plate of non-aquatic insects, although I know some who may consider it unorthodox, even if not savouring of quackery.

SPIDERS, &c.—*ARANEIDA, &c.*

Plate 9.

SPIDERS, CATERPILLARS, Etc.—*ARANEIDA*

No.	Name.	Horns.	Legs.	Thorax.	Wings.	Body.	Rib.	Notes.	Hook.
92	Green Spider	——	Brown partridge	——	——	Pale green cork	——	See notes *re* fly tying	DF
93	Wolf Spider	——	Yellow and black grouse	——	——	Brown cork	——		DF
94	Diadem Spider	——	Grey partridge	——	——	Green cork	——		DF
95	Red & Black Caterpillar	Scarlet wool eyes	Black cock or peewit crest	——	——	Scarlet mohair or wool	Silver tinsel		DF
96	Black Ant	Mallard	Iridescent	Black ostrich	Blue cock points	Black quill	——	Herl may be used for the body	BD
97	Red Ant	,,	,,	Cinnamon quill	Blue cock points	Cinnamon quill	——		AC
98	Green Caterpillar	——	Blue cock	——	——	Yellow and green wool or mohair	——		DF
99	Black Caterpillar	——	Black hen or peewit crest	——	——	Black wool	——		DF
100	Paint Brush Caterpillar	Black turkey and yellow macaw	Black hen	——	——	Black & red	Silver tinsel		DF
101	Green Beetle	Green cock	Dark green cock	Darkest green ostrich	Green & Red macaw	Peacock herl	,,	Wings tied down along the back	DF
102	Small Beetle	,,	Green cock	——	Green & Yellow macaw	Black ostrich	,,	,, ,,	AB

PLATE 9.

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Chapter IX.

SPIDERS, &c.—*ARANEIDA, &c.*

Plate 9.

We have shown on plate nine another rather mixed lot of lures. The spiders are not, strictly speaking, insects, but they come in a class by themselves, known as *Araneidæ* the British species being classed as *Arachnidæ*, being a link between the animal and the insect kingdoms.

On fig. 92 we have a very common Spider (*Agelina labyrinthica*), found on bushes by the river side and a great favourite with the fish. I have seen very many drop on the water, but have never seen a single one float far on the surface before it has been seized by a fish, and I am astonished that more use has not been made of artificial spiders as lures.

Fig. 93 is a spider of a different class, found in great numbers on the gravel beds of almost all streams; it is a vagabond, and does not spin a web. It is known as the Wolf Spider (*Lycosa fluviatilis*), and is a capital lure at all times. It floats well, and, fished up stream, is a deadly bait, when used by an expert.

Fig. 94 is another of the *Agelinæ*, rather darker than No. 92, and an excellent lure in all respects.

From the beginning of the season to late Autumn, caterpillars abound on the herbage and bushes in infinite variety.

Fig. 95 shows one stage of a very common one, the larvæ of the Cinnabar Moth; the combination of black, red, and silver is often irresistible when offered judiciously. It may be dressed from a quarter of an inch to one and a half inches long, according to the water to be fished.

Fig. 96 is the Black Ant (*Lasius niger*), which swarms and drops on the water by thousands in August and September, and is a most successful fly to use at such times.

Fig. 97 is the Red Ant (*Formica rufa*), of similar habits, and a capital fly at all times.

Fig. 98 is the larva in an immature stage of *Arctia-caja*, one of our very commonest moths, and the green and yellow is an exceedingly useful change to use, after the other caterpillars.

Fig. 99 is the caterpillar of the Common Tortoise-shell Butterfly, and there are also several other species of dark "hairy worms" or "woolly bears," of which it is a passable counterfeit, and being typical, is an excellent lure.

Fig. 100 is the caterpillar of the Common Vapourer Moth, which at times devastates our hedgerows, appearing by thousands, and completely denuding them of leaves.

It is sometimes called the "Paint Brush Caterpillar" on account of its curious tufts.

Fig. 101 is a brilliant green beetle, exceedingly common in places, on the flowers of the ragwort, along the edge of some rivers. We tried it as a pattern for an artificial, and finding it a success, decided to include it amongst our other friends.

Fig. 102 is a small green beetle, also found on the ragwort with No. 101, and well worth imitation and use.

The ants are old favourites, and their use has been advocated by almost all authors writing on artificial flies, but we consider that the spiders and caterpillars have not had the amount of attention bestowed upon them which they deserve.

Spiders are in evidence all through the season, caterpillars are most in evidence during the latter part, numbers of the *Lepidoptera* carry over the Winter by hibernation in the larval stage and many are numbed by the early Autumn frosts and fall from the marginal plants into the water, and this doubtless accounts for the eagerness with which grayling take a Bumble or Woolly Caterpillar type of "fly."

Every windy day numbers of them must drop on the water, and being fat, juicy morsels, they are immediately seized by trout, which get weary of everlasting duns, stone flies, and other aquatic insects.

A slight rise of water, and the fish become more alert in anticipation of the coming flood and consequent feast, and one of the first indications of a rising water to the observant sportsman is the floating past of the dead leaves and bits of stick. Closer observation will also reveal a number of the Wolf Spiders trying to make the shore, and frequent plops of rising fish close to the side, suggest that their efforts have only succeeded in attracting the undesirable attention of their enemies.

HACKLES.

Plate 10.

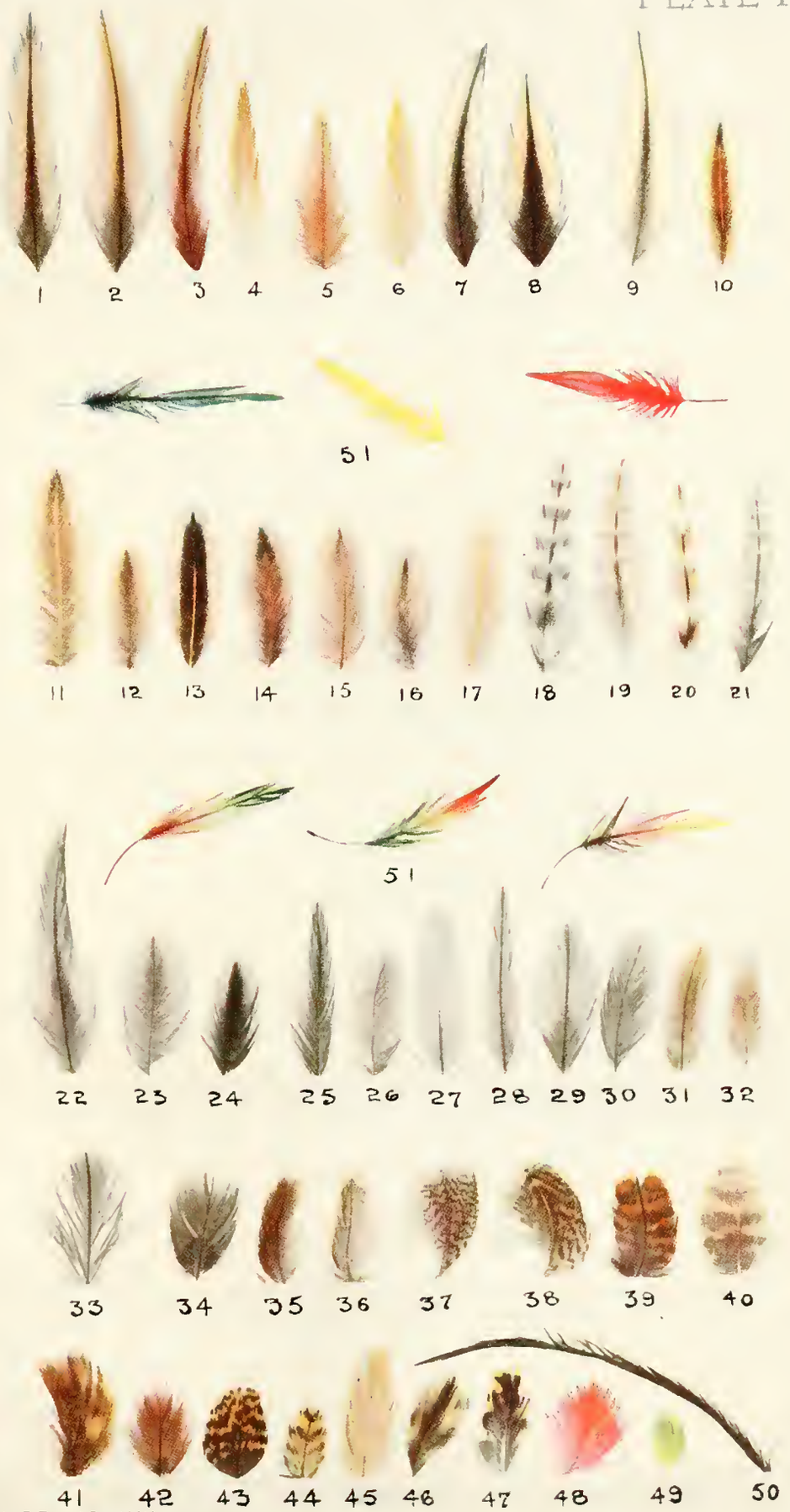
HACKLE FEATHERS. POULTRY, &c.

1. Coch-y-bonddu.
2. Furnace Cock (neck).
3. Red Cock (neck).
4. Red with White List, Cock.
5. Red Cockerel.
6. Yellow or Brassy Cock.
7. Dark Badger Cock.
8. Yellow Badger Cock.
9. Pale Badger Cock.
10. Brown Badger Hen.
11. Game Hen.
12. Pale Game Hen.
13. Dark Game Hen.
14. Dark Cinnamon Hen.
15. Cinnamon Hen.
16. Dark Buff Hen.
17. Buff Hen.
18. Cree Hen.
19. Yellow Cree Cock.
20. Yellow Cree Cock.
21. Fine Cree Cock.
22. Black Cock.
23. Black Hen.
24. Green Black Cockerel.
25. Dark Blue Cock.
26. Dark Blue Hen.
27. Light Blue Cockerel.
28. Rusty Cock.
29. Rusty Hen.
30. Dark Honey Dun.
31. Medium Honey Dun.
32. Honey Dun.
33. Merlin or Blue Hawk.
34. Coot or Water Hen.
35. Dark Snipe (under wing).
36. Starling (under wing).
37. Grey Partridge (breast).
38. Brown Partridge (back).
39. Woodcock (dark back).
40. Light Woodcock (under wing).
41. Brown Owl (back or wing).
42. Grouse, Cinnamon.
43. Grouse, Speckled.
44. Grouse, Barred.
45. Landrail or Corncrake.
46. Curlew.
47. Golden Plover.
48. Ibis.
49. Parakeet or Love Bird.
50. Green Plover or Peewit.

Topping.

51. Dyed Hackles.

PLATE 10



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Chapter X.

HACKLES.

Plate 10.

The Coch-y-bonddu is a very difficult feather to get in small sizes. It is, however, much more plentiful in larger sizes, as the small feathers are apt to be too black. The example shown is a good one, having good black, "list" next the quill, then good deep red and black tips. It is the black tips which distinguish it from No. 2. which is known as a "Furnace Hackle."

No. 1.

No. 2.

(Nos. 3, 4, 5) call for no special comment, except that it will be noted that No. 5, being from a young bird is much worse in form than Nos. 3 and 4 which are from older birds and longer in the point. No. 6—a real, bright "brassy"—is not met every day. Many writers describe a dun coloured feather with yellow points as a "brassy" we prefer to call a shiny yellow by this name to distinguish it from a "brassy dun," *i.e.* the dun with brassy or yellow points. It is the best possible base for dying on, and also makes first rate wings for "Lacewings" and "Yellow Sallies," &c.

Nos. 3-4-5.

No. 6.

The dark and light badgers are favourites for many hackled and wing flies, and No. 8, " black yellow black," is the original hackle of Greenwell's Glory.

Nos. 7–9.

The Brown Badger is not used as much as it might be. It makes a very good imitation of brown and white legs, which are often seen in nature.

No. 10.

Three shades from the neck of a game hen. These are sometimes called " honey duns," and may be obtained in a very wide range of shades, most of them being useful.

Nos. 11–12–13.

Range from buff to deep cinnamon, and are all useful ; they are all hen feathers, and for Caddis-flies are very suitable.

Nos. 14–15–16–17.

Small hackles of these colours are great favourites with grayling.

Various colours of " Crees " ; the finest in the markings are the most useful, and the tips of the small feathers make first rate wings for gnats and small stone flies.

Nos. 18–21

Black Cock, a very useful feather for many purposes.

No. 22.

Black hen of a smoky colour, also very useful.

No. 23.

Is a lustrous black green, rather stiffer, and floats better than No. 23.

No. 24.

When held up to the light this is many shades lighter, and has a fine glassy grey colour.

No. 25.

No. 26. Is a hen feather, duller of fibre, but nearly the same colour.

No. 27. Is a fine glassy light Andalusian cock of good quality.

Nos. 28–29. Are "rusty" blues, that is: when held up to the light they have a distinct brownish red tinge, especially at the tips.

Nos. 30–31–32. Are very much sought after; they are honey duns of three shades, being the colour of rather dark old honey along the quills, and new honey at the tips of the fibres.

The merlin or blue hawk back, provides excellent pale blue, much sought after by grayling fishers; the heron and the tern or sea-swallow also yield somewhat similar feathers.

No. 33.

No. 34. The coot provides some very good hackles on the back, the wings, and also under the wings.

The various snipe, sand pipers, stints, dunlins, and other shore birds give feathers of this type, though one of the best is under the wing of the jack-snipe.

No. 35.

No. 36. The starling's underwing provides this feather, which is often palmed off as a dotteril for hackles of that ilk.

The grey partridge is useful, but not as generally so as the brown one, which will kill with or without a wing and with almost any coloured body, where the trout are not over educated.

Nos. 37–38.

Nos. 39–40. From the back and underwing of the woodcock ; they are used both as hackle or wing feathers.

No. 41. The brown owl, used as a hackle imitation of a Caddis-fly.

Nos. 42–43–44. These are grouse hackles of very varied colour, and all useful.

No. 45. This is a landrail hackle of very useful colour, as are almost all the feathers on this bird.

No. 46. The curlew, much used for hackle flies on the moors where the bird abounds.

No. 47. The golden plover, also useful, the contrast between the yellow and the dark ash colour, making fine speckled legs.

No. 48. The ibis, used for tags, heads, and tails, and on occasion, legs, when a freak is wanted.

The small parakeet, which is a fine insect green, and sometimes takes both trout and grayling when they are skittish and refuse more commonplace diet.

No. 49.

No. 50. The peewit crest ; very useful when a long fine hackle is desired.

The best way to judge of the real quality of a hackle is to try the texture and then hold it up to the light, when a much truer judgment may be formed of its real colour than by looking at it by reflected light.

The various dyed hackles shown are those used when attempting to obtain an iridescent effect in the fly. As many find difficulty in understanding how the tricolour feathers are dyed, I will briefly describe the process.

No. 51.

First choose bright glassy hackles and after thoroughly washing them, boil in yellow dye, again thoroughly rinse in clean water and dry, then one end may be dipped in scarlet dye and the other in green, rinsing and drying the feathers between each operation. In doing a large number at once a cramping device is employed to avoid the dye creeping and to generally facilitate the process, like many things it is quite simple when explained, though not quite so obvious until several unsuccessful attempts lead to the solution of the problem.

I am reminded that starling hackles are not included in the list given and illustrated, this is simply an oversight not because their usefulness for small flies is unappreciated, generally speaking there are such an innumerable number of feathers which may be used that it is impossible even to name let alone illustrate them all.

FEATHERS FOR FLIES' WINGS.

Plate 11.

FEATHERS FOR FLIES' WINGS.

1. Cock Pheasant—Wing.
2. Hen Pheasant—Wing.
3. Cock Pheasant—Tail.
4. Cock Pheasant—Wing.
5. Hen Pheasant—Tail.
6. Orpington Cock.
7. Capercailzie.

8, 9. Game Hen.

10, 11. Bittern.

PLATE 11.

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Chapter XI.

FEATHERS FOR FLIES' WINGS.

Plate 11.

Fig. 1. This is from the wing of a cock pheasant, and is one of the feathers commonly used for a March Brown; it is an easy feather to manipulate.

Fig. 2. No. 2 is also a secondary wing feather from the wing of a hen pheasant, and is used for March Browns, and also for Sedges.

Fig. 3. Is from the tail of a cock pheasant, and is very good in colour and speckle, but not good to work, as the fibres do not marry well; the Alder wing is sometimes made from this feather.

Fig. 4. Similar to No. 1, but from a lighter coloured bird.

Fig. 5. Tail feather from a hen pheasant, a useful Sedge colour.

Fig. 6. From an orpington cock; a fine cinnamon, and easy to work.

Fig. 7. This and many other varieties of finely speckled feathers are obtained from the capercailzie.

Figs. 8–9. Were taken from a game hen, and are fine in the speckle, and good working feathers; Alders and March Browns are sometimes imitated with this feather.

Figs. 10–11. Are bittern feathers, which have a great variety of colour and marking; no finer imitation can be found for some of the Sedges, &c. The fibre is soft and silky and marries very well. All feathers consist of two main portions, viz. :—The central quill or "rachis" from which spring the fibres known as "barbs" from which in many feathers branch smaller fibres called "barbules," in good cock hackles the latter are absent, with the result that they present only a hard glassy surface to the water and float better in consequence. When these barbules interlock strongly the feathers are said to "marry" well, and as a consequence they make excellent wings for artificial flies, not splitting up as a feather will in which the barbules are less developed.

FEATHERS FOR FLIES' WINGS.

Plate 12.

FEATHERS FOR FLIES' WINGS.

12, 13, 14.	Jay.
15.	French Partridge Wing.
16, 17.	Partridge Tail.
18.	Partridge Wing.
19.	Egyptian Quail.
20, 21, 22.	Grouse.
23, 24.	Woodcock Wing.
25, 26, 27.	Brown Owl.
28, 29.	Nightjar.
30, 31.	Landrail.

PLATE 12.

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Chapter XII.

FEATHERS FOR FLIES' WINGS.

Plate 12.

Figs. 12–13–14. Are Jay feathers, fine and transparent in the fibre, and very good in colour—the cinnamon for Sedges and the grey for *Ephemeridæ*.

Fig. 15. Is from the wing of a French partridge, and very useful for Sedges. Easy to work.

Figs. 16–17 Tail feathers from a partridge, good in colour but long in the fibre, and very apt to break up rather badly.

Fig. 18. Partridge wing; fine in colour and easy to work, just right for a Grass Moth or a small Sedge.

Fig. 19. A quail wing feather, used whole to imitate the big sedge. "Grandis"

Figs. 20–21–22. Grouse feathers. There are also several other shades on a grouse, equally good and useful, both in colour and texture.

Figs. 23–24. Woodcock wing feathers; probably about the easiest to manipulate as wings, and useful in quite a number of flies, *e.g.* Oak Fly, Sedges, etc.

Figs. 25–26–27. Are from a brown owl. For Sedges they are very good, especially the larger ones, but they must either be tied thick or supported, as they turn very soft after getting soaked.

Figs. 28–29. Good in colour and markings for dark Sedges, but all night-jar feathers soon knock to pieces, being so soft and fluffy, but for wet flies they are very good indeed, while they last.

Figs. 30–31. Are from a landrail, which is a grand bird for the fly-dresser. The feathers are pleasant to work, and very attractive to the fish.

FEATHERS FOR FLIES' WINGS.

Plate 13.

FEATHERS FOR FLIES' WINGS

32, 33. Golden Pheasant.

34. Tern or Sea Swallow.

35. Starling.

36. Blackbird.

37. Waterhen.

38. Peacock Sword.

39, 40. Heron.

41. Indian Runner Duck.

42. Teal.

43, 44. Widgeon.

45. Mallard.

46. Bustard.

47. Teal—Breast.

PLATE 13

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Chapter XIII.

FEATHERS FOR FLIES' WINGS.

Plate 13.

Figs. 32–33. Are from a golden pheasant. No. 32 is used for wing cases (*Elytra*) in dressing beetles, where a dark colour with a metallic gloss is required. The orange and black provides a very good imitation of the Soldier Beetle. Single fibres are also useful for the tails of *Ephemeridæ*, etc.

Fig. 34. Is from a tern or sea swallow, which has a number of hackles as well as wing feathers of a very delicate pale blue grey, decidedly suggestive of a variety of small Duns. Grayling esteem this colour highly.

Fig. 35. From our old favourite the starling, which, although one of the commonest, is among the most useful of birds, providing also small dark glossy hackles of fine quality.

Fig. 36. Blackbird; good alike in texture and colour for a dark coloured Dun.

Fig. 37. Coot or waterhen wing; a fine texture, and possessing just the right brownish tinge for many of the Stone flies.

Fig. 38. Peacock sword. Having been frequently asked what was meant by a sword, and also where the best green body herls are obtainable, we decide to illustrate this feather.

Figs. 39–40. Heron feathers, rather coarse in the fibre. Excepting the smaller feathers, all beautiful in colour, and the herl from a large feather makes a fine grey blue body.

Fig. 41. Indian Runner duck, which, like all the other ducks, yields some very beautiful feathers.

Fig. 42. Teal ; a beautiful black feather with white lines, more useful for sea trout than for brownies.

Figs. 43–44. Widgeon (No. 43), of a rich velvety black with white edge ; makes good Sedge's wings, and also *Elytra* for Beetles. No. 44 has a strong showy marking, and is sometimes used for Mayflies.

Fig. 45. The brown mallard, which was at one time used for the wings of a great number of flies. The amateur may find difficulty in tying this and other duck feathers when used in sections.

The best way is to cut out the desired section with a piece of quill attached, and cut this quill off after the wing is tied in position on the hook—not before.

Fig. 46. This is a rather expensive feather from a bustard. It is a great favourite, and a couple of fibres are very attractive as tails to

almost any fly. The feathers are, unfortunately, soft, and the fibres break off short with continuous use.

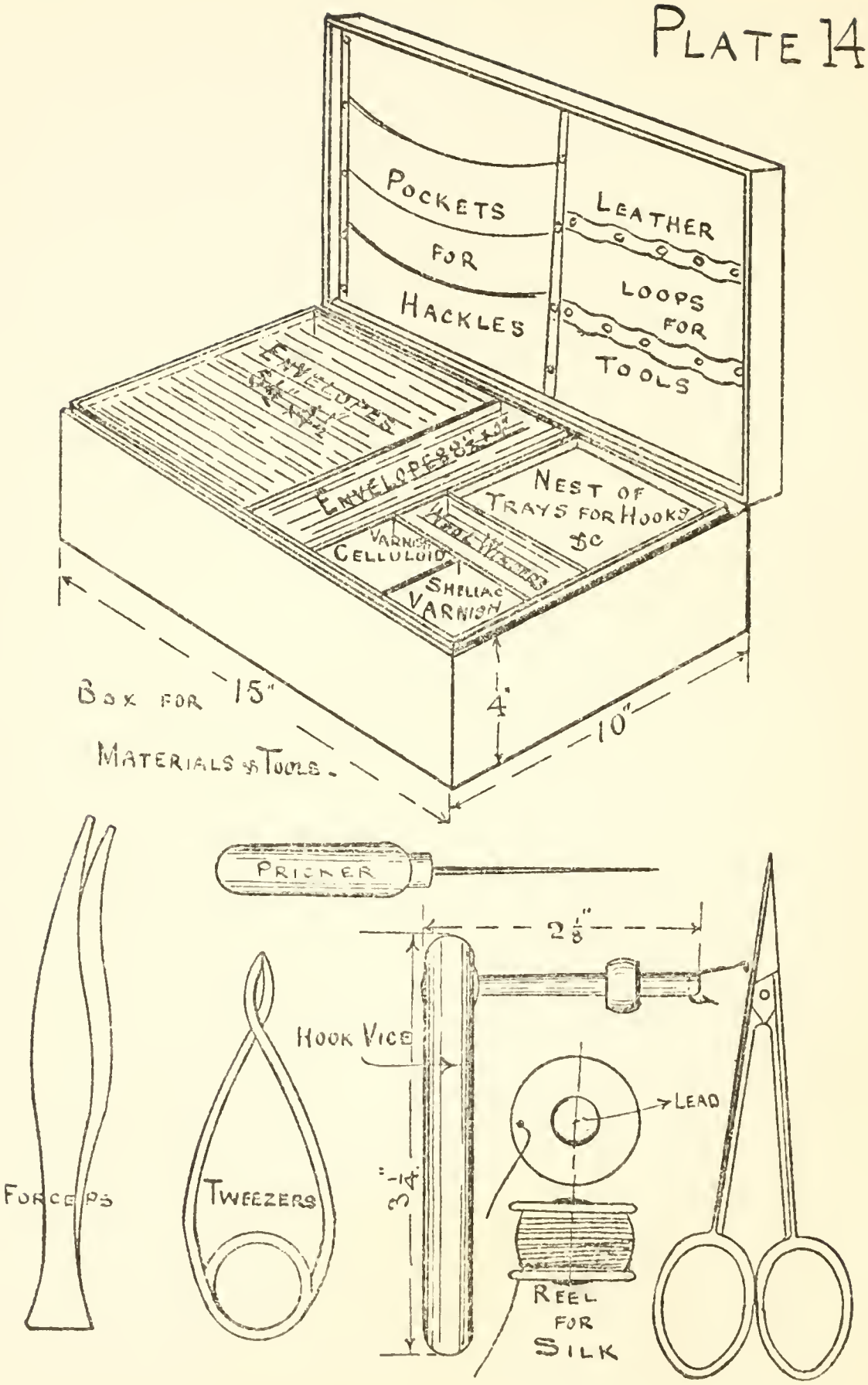
Fig. 47. Breast feathers from a teal ; although almost any duck will yield feathers like this.

The feathers having the finest speckle are those obtained from the Canadian Wood Duck, the Egyptian Goose, or the Indian Runner Duck.

MATERIALS.

Their Selection. Collection. Storage.

PLATE 14


POCKETS FOR HACKLES
LEATHER LOOPS FOR TOOLS
ENVELOPES
ENVELOPES
NEST OF TRAYS FOR HOOKS &C
VARNISH CELLULOID
SHELLAC VARNISH
BOX FOR MATERIALS & TOOLS
15"
4"
10"
PRICKER
2⅝"
HOOK VICE
LEAD
3¼"
FORCEPS
TWEEZERS
REEL FOR SILK

Chapter XIV.

MATERIALS.

Their Selection. Collection. Storage.

The selection of suitable materials contributes largely to the success of an artificial fly. Before any material can be considered suitable for use, it should be submitted to the most critical examination with regard to its colour, texture, strength, and last, though not the least, its durability under the very searching tests to which it will be put later on.

It is not the least use employing a delicate shade of material to match some delicate insect, when such material will totally alter its colour on coming in contact with either oil or water the first time it is used.

This is not confined to silks and textile materials, some feathers being very bad in this respect. There is a beautiful blue American bird called a Roller, the feathers of which turn a curious puce colour in the water, but quite regain their lovely lustrous blue when again dried, and this alteration of colour by immersion in water is not confined to the feathers of the Roller.

Silk.

The conclusion we came to some years ago was to totally discard silk as a body material, except for tying or packing purposes under tinsel. It is most mortifying to expend considerable time and pains in exactly matching some delicate dun, and then find the colour entirely disappear the first time it is used. Therefore,

for bodies, the best material of all, wherever suitable in texture and size, is beyond doubt a barb taken from some large feather from a condor, peacock, turkey or similar bird, or carefully stripped from the rachis of a small feather. As described elsewhere the rachis is the main rib or quill of any feather and the barbs are the fibres branching from them and the barbules branch from the barbs. We here refer to barbs composed of a narrow flat quill like substance smooth and polished on one side, dull on the other from these narrow " quills " the feathery barbules must be removed by careful scraping, during this operation the " quill " being held by the left thumb on a sheet of celluloid, vulcanite or similar material which will spring slightly under the pressure of the knife, this spring is found to minimize breakages during the scraping. These so called " quills " readily dye any desired colour, keep clean, do not fade, and are not affected by either oil or water.

Quill.

To Strip Quills.

When a thicker or hairy body is required, such is usefully imitated by fibres of quill from the peacock, heron, condor, pheasant, turkey, or other bird, without being either stripped or even dyed.

Raffia grass is another capital material, very tough, and a good substitute when quill is not available, but it does not give such a good stripe or rib to the body when finished, nor does it keep its colour so well as quill, nor take quite such a brilliant dye.

Raffia.

In some golf balls a fine indiarubber tape is used as a core, if this is wound tightly over a yellow or other light coloured wool, it makes a good body of an olive shade, which keeps its colour well. It is unfortunate that this material has such a limited range of colours, as it is easy to obtain and pleasant to work.

Wool.

Of textile materials, unmistakably the best is wool; either mohair, sheep, seal or pig. Any of these dye readily, and will keep their colour even if soaked for months; but bear in mind that wet materials are usually a shade darker than dry ones, therefore, it is better either to dress imitations with wet materials, or try a wet example for colour before going too far.

Why does a fly when first put on, so frequently rise a fish at the first cast? Because it is dry, reply the purists. We will ask another question:

"If that same fly is waved about until it floats perfectly, does it regain its first efficiency?" No, certainly not, because it has deteriorated considerably in colour; at least, this is the suggestion which we throw out for the careful observation and consideration of anglers.

Hackles.

With regard to hackles for legs, they should be moderately stiff for floating flies, and for wet flies may be quite soft in texture, providing they have the necessary strength to stand the knocking about.

The soft game hackles darken much more when wetted than the harder and smoother surfaced poultry feathers.

Old Birds.

Generally speaking, good old birds yield better feathers than younger birds; they are stronger, and in poultry such hackles possess that glassy quality so much esteemed by fly tiers, to say nothing of being longer and finer in the point.

Wings.

The materials used for wings are, in the great majority of cases, the secondary wing feathers, though tail and body feathers are also employed in some instances.

The copying of a Dun's wing with a piece of feather is at best a very poor imitation, but, in practice, the best material found so far; quills and scales are too hard, and make the fly twist, both whilst being cast through the air, and also in the water; this quickly breaks even the best gut casts.

We may later, possibly, find a better material than feather, but at present it is certainly the one to which the fewest objections can be raised.

Small Birds for Wings.

The fault most fly-dressers make is in using the feathers from too large birds, whereas excellent ones may be had from almost any of the common small birds.

The obtaining of a good collection of materials is a work of time, as the items used are varied, and not all available at the same time or season.

Poultry Hackles.

The various poultry hackles are best obtained as heads and necks from the poulterer, the winter months usually providing the best feathers, when the birds are not moulting.

Scalps.

After the scalp and neck are taken off, the skin should be carefully scraped clean, then skin and feathers well washed with carbolic soap and water, before being pinned out to dry.

Mohair.

Mohair may be had from some local dealers, or from Bradford, cleaned all ready for dyeing. Peacock feathers might, until recently, be had at many fancy shops, though the sword feathers are difficult to obtain, except at tackle shops.

Quills.

Condor feathers may be bought at the milliners, where they are known as "Eagle quills," but the supply depends, to a large extent, on the caprice of fashion, and as ladies wear feathers more in Winter than Summer, they are often unobtainable in the latter season, excepting wholesale from the warehouses.

Condor Quills.

First quality feathers range from two shillings to half-a-crown each, but it is not necessary to go to this price, as there are usually second and third quality feathers to be had, which are either locally damaged or have some of the herl frayed off. These are equally good from the fly dresser's point of view, and are obtainable at half price.

Raffia.

Raffia grass is to be had from almost any nurseryman or florist, and is used by them to tie up growing plants. A few coppers will procure an abundant supply, which may then be dyed as required.

Cocoa Fibre.

Cocoa fibre is also useful as a body material; it may be obtained from the makers of matting, or a new door-mat will yield a supply on occasion.

Wing Feathers.

The various feathers used for wings can be obtained from the poulterer and game dealer. The gamekeeper is also usually able to supply magpie, jay, various hawks, owls, and so forth, and should these sources fail, ordinary varieties may be obtained at cheap rates from regular dealers, in fact, it is often more satisfactory to procure them through the ordinary channels of trade than from outside sources, where an exaggerated idea of their value often obtains. Lastly, there is the taxidermist, who sometimes has badly shot or spoilt skins to dispose of. To buy specimen birds is, of course, out of the question, as the price is prohibitive.

Tying Silks.

The colour of these is immaterial, as the body and other materials used mask it to such an extent that it shows very little, if at all; the all important qualities it should possess are fineness and strength, the finer it is the less does it pull round in

tying, consequently wings are put on straighter, and in every way it is easier and more pleasant to handle, when really fine. The second quality is strength; some might put this first, but with a very fine silk an extra turn or two may be employed, which compensates for any moderate failure in strength. Some colours seem to be stronger than others, and in consequence, orange has established itself as our favourite, and we now seldom use any other colour.

Waxing Silk.

The best way to wax very fine silk is to take a small portion of good wax about the size of a pea, and warm this between the finger and thumb, then run the silk once through it, when a good coating is left on the silk, which should at once be wound on to a narrow bobbin.

It increases the usefulness of this bobbin if a small hole is drilled through one flange. When tying a fly, the end of the silk is passed through this hole, and without unthreading the silk from this hole, any length can be looped off as required.

If the centre of the bobbin be filled with lead, it keeps the tying silk on the fly taut during intervals of the tying operation.

Hooks.

With regard to the hooks used in fly dressing, it is better to keep them on the small side, fine in the wire, smooth in in the eye; and before tying, examine the barb and the temper by pulling the point moderately.

Down turned eyes are the most convenient, but fine wire and small smooth eyes are, we think, the desiderata, the bend being a secondary consideration.

The present way in which hooks are numbered by the various makers is confusing in the extreme. In an endeavour to clear matters up, we have attached a letter for the hook sizes to each of our formula, and herewith append an alphabetical list of makers, and give the numbers with which they describe their hooks, in tabulated form under our equivalent letters.

The list shows only the hooks within our range, and there are in all over three hundred different styles of hooks, from which we have chosen the most generally useful.

It is impossible to say the exact equivalents of sizes in the various bends, as the gape, thickness of wire, length of shank, size of eye, each vary, making a hook suitable for use or otherwise at a certain size.

EYED FLY HOOKS.

Letters to Formulæ.....		A	B	C	D	E	F	G	H	I	J	K	L		
MAKERS.	Nos.													REMARKS.	EYES.
S. Allcock & Co., Ltd., Redditch.	4991	21	20	19	18	17	16	15	14	13	12	11	10	" Model Perfect," kirbed.	Down turned.
	04991	—	20	19	18	17	16	15	14	13	12	11	10	,, ,, improved.	,,
	1808	—	17	16	15	14	13	—	12	—	11	10	9	Snecky, Limerick	,,
	1808EI	—	—	—	15	14	13	—	12	—	11	10	—	,, ,, Long Mays.	,,
	1808S	17	16	—	15	14	13	—	12	—	11	10	9	Sneck, square bends.	,,
	1810	—	17	16	15	14	13	—	12	—	11	10	9	Limerick.	,,
	2804B	—	16	—	15	14	13	—	12	—	11	10	9	Sneck, up turned shank.	,,
	2805B	—	—	—	16	15	14	13	12	—	11	—	10	Limerick, ,,	,,
	2812	—	—	—	—	—	—	—	12	—	11	—	10	,, up turned and returned loop.	,,
	5969	17	16	—	15	14	13	—	12	—	11	10	9	Sneck.	Up turned.
	5970	17	16	—	15	14	13	—	12	—	11	10	9	Snecky, Limerick.	,,
P. Hutchinson & Son, Kendal.	—	000	00	0	1	2	3	—	4	5	6	7	8	Hall's Pattern.	,,
	—	000	00	0	1	2	—	—	—	—	—	—	—	Long Shanks, Limerick kirb.	Up or Down.
	—	—	—	—	—	2	3	4	5	6	7	8	—	Long Mays, ,, ,,	,,
	—	000	00	0	1	2	3	4	5	6	7	8	9	Kendal sneck bend.	,,
H. Milward & Co., Ltd., Redditch.	3569	000	00	0	1	2	3	4	5	6	7	8	9	Pennell sneck, up turned shank.	Down turned.
	2741	16	15	14	13	12	—	11	10	9	—	—	—	Archer " Hall's " eyed dry fly.	Up turned.
	3412	16	15	14	13	12	—	11	10	9	8	—	7	Kendal sneck.	Down turned.
	3414	18	17	16	15	14	—	13	12	11	10	—	9	" Iron Arm," forged or hammered	,,
	3585	16	—	14	—	12	—	—	10	—	8	—	—	" Ashford " sneck.	,,
	—	—	—	—	—	12	—	11	10	9	8	—	—	" Long Mays."	Up turned.
Wyers Freres, Redditch.	1802	18	17	16	15	14	13	12	11	10	9	8	7	" Alerte ," double barbed.	Down turned.
	1821	18	17	16	15	14	13	12	11	10	9	8	7	Sneck and Limerick.	Down or Up.
	1824	16	15	14	13	12	11	10	9	8	7	6	5	Round bend.	Down.
	1836	00	0	1	2	3	4	5	6	7	8	9	10	Sneck bend.	Down or Up.

Tinsel.

Tinsel may occasionally be used with advantage, but sometimes trout will, by preference, take a fly that is without it. The intention of its use is as an attraction to or advertisement of the fly, and its justification is the fact that many insects have more or less ciliated bodies, and when they alight on the water the cilia carry air, which, when viewed from below, looks exactly like gold or silver tinsel as the case may be.

There are five varieties of tinsel used, viz., flat, oval, wire, braided, and lace; the flat and the wire are the two most used in small flies, and may be obtained "untarnishable"; the common sorts turn black very soon, and of little use for this reason.

Dyes.

Any aniline dye, if carefully used, will give a fair result. Only one word of warning, and that is: do not overdo it. Many of the colours in nature are delicate and suggestive rather than positive and aggressive. It is as well to dye several shades of the same colour by giving the material under treatment, either various strengths of dye, or by giving different times of immersion to portions of the material.

Storage.

When commencing to get a stock of material together for fly dressing, the very first thing to do is to obtain a thoroughly suitable box to contain such materials. This provides a place for them, where they will keep in condition ready for use.

The desiderata are: first, a thoroughly insect-proof

box ; and second, a system by means of which any material or implement used may be instantly found, so as to avoid loss of time. The best box is an ordinary yellow pine entomological box, such as sold by naturalists. A handy size of box is 15 in. × 10 in. × 5½ in. outside sizes. The lids of these boxes fit closely on to a strip of wood along the inside of the box, making an almost airtight joint, which effectually keeps out moths. Care must, of course, be exercised to see that insects are not introduced with the materials stored. If any feathers or other materials are doubtful, or have been obtained from even a doubtful source, they should be dipped in benzine, or washed with carbolic soap and lysol, and then rinsed in clean water and carefully dried. By adopting these precautions, we have, so far, entirely escaped insect ravages.

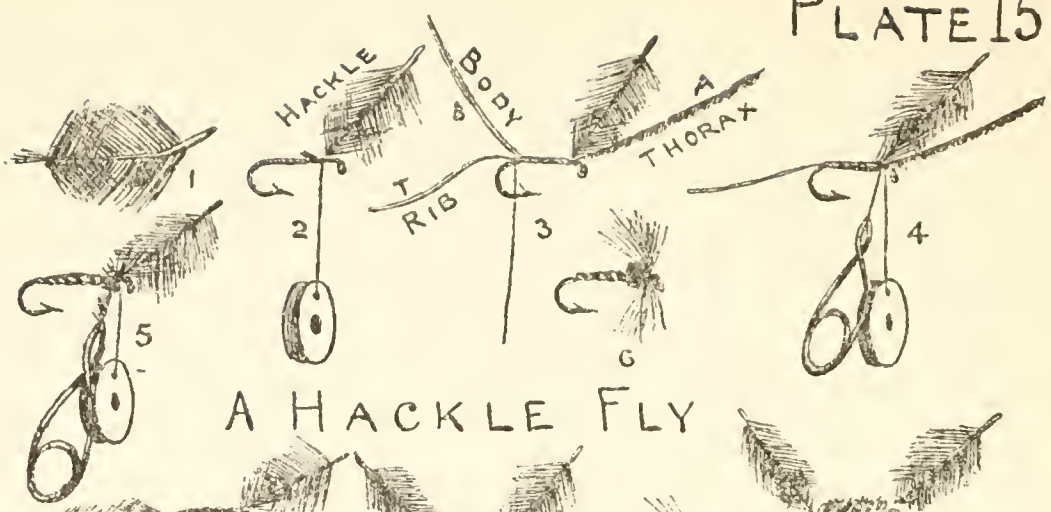
An arrangement, as shown by the illustration (Plate 14), will be found to amply repay the trouble involved in fitting it up. The left hand compartment holds about one hundred envelopes, alphabetically arranged, containing small feathers, dubbing, etc., the nature of the contents being written in the top left-hand corner in bold letters. The centre compartment accommodates foolscap envelopes for condor, turkey, and other feathers and wings too large to go in the smaller envelopes ; twenty is a handy number of these. At the back, on the right-hand side of the box, are three small trays, containing hooks, wax, tying silks, tinsel, and other details. The centre compartment at the end contains a number of winders, made

of thin wood for holding wools ; and raffia grass for bodies ; and the two small front compartments contain two stoppered bottles, one for varnish, and the other for celluloid solution for varnishing bodies, etc.

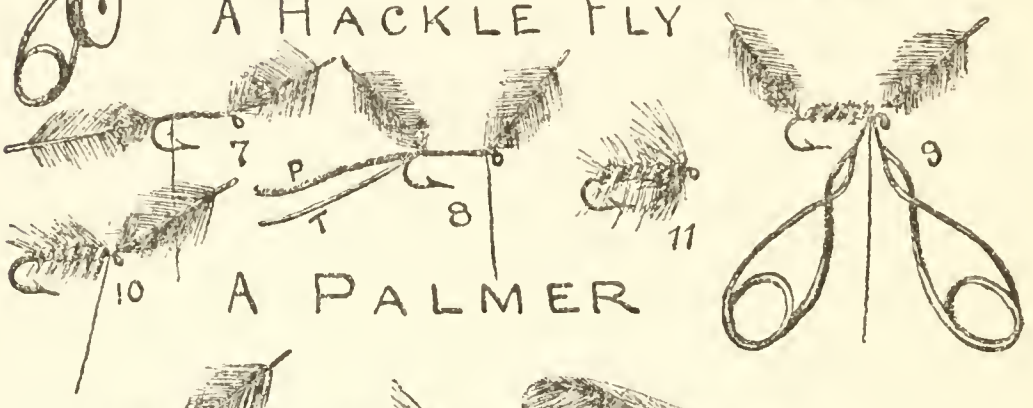
At the right-hand side of the lid are arranged all the implements of the craft, always in sight, and at hand when the materials are produced. These slip into loops, made by tacking strips of leather along the lid with brass-headed furniture tacks. The mis-laying or non-replacement of a tool is at once seen by the gap it leaves, and search is made before it gets too far astray. On the left side of the lid is a series of parchment pockets, containing the commoner cock hackles which are in everyday use—red, blue, black, etc. These are, of course, in sight whenever the box is opened. The hackles are kept on the necks and scalps of the birds for convenience of handling, and the ready selection of a feather of the exact size required. Such is the box and its general arrangement, which should, we think, meet every requirement, and certainly is more compact, insect-proof, complete, and handy than anything we have seen elsewhere.

MAKING AN ARTIFICIAL.

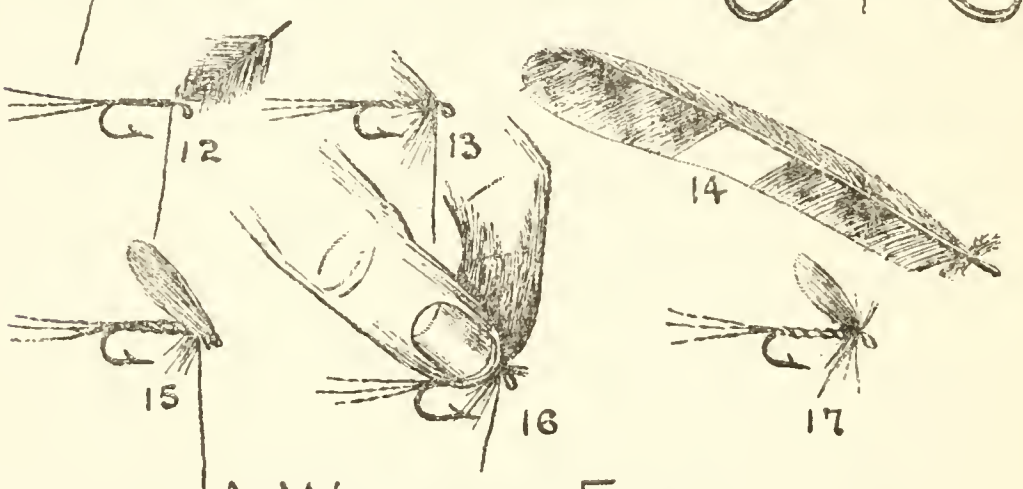
PLATE 15



A HACKLE FLY

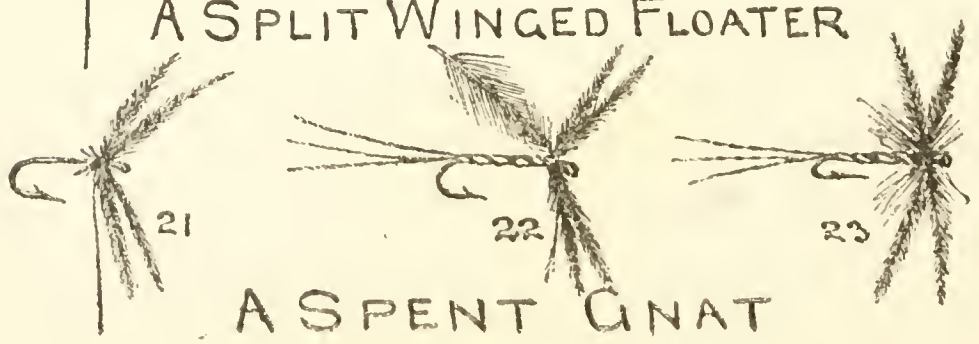


A PALMER



A WINGED FLY

A SPLIT WINGED FLOATER



A SPENT GNAT

Chapter XV.

MAKING AN ARTIFICIAL.

Plate 15.

Before describing in detail the method of making a fly, we will draw attention to a few generalities which it may be useful to recapitulate. In dressing hackled imitations, the bodies should be kept thin, as a rule, and the hackles, after tying, should not project much beyond the bend of the hook.

Hackles.

The hackles for winged flies are made from two-thirds to three-quarters the length used for hackle flies.

The wings for imitation *Ephemeridæ* should be short and rounded, whereas for the Sedges, and several of the *Diptera*, and the *Neuroptera*, they may be with advantage rather longer than to the bend of the hook.

Wings.

The addition of a thorax to a hackle fly improves the imitation very much, by preventing the hackle from flattening on to the body, and so making the fly much more lively in the water.

Thorax.

The bodies vary considerably in length, some, such as Sedges, should be dressed rather round the bend; others, such as the *Ephemeridæ*, are better for being shorter and straighter.

Bodies.

It was our intention to leave the description of the detailed method of fly tying severely alone, as it has been so ably dealt with by many other writers. However, in order to make this volume more self-contained and complete in itself, it has been decided to add a chapter dealing with this part of the subject. There are about nine different styles of dressing an artificial insect, as follows :—

1. A hackle fly with legs and body only.
2. A Palmer or Caterpillar with legs all along the body.
3. An upwinged fly. An imitation *Ephemeron.*
4. A split winged fly. To be used floating only.
5. A Spent Gnat.
6. A down winged fly, of which the Sedge is an example.
7. An upright, whole-feather winged fly as a Drake.
8. A Beetle.
9. Spider.

Style I. A Hackle Fly.

It is assumed that suitable materials have been obtained, and from these we will select a hackle feather, the length of whose fibres should be the length of the hook to be dressed from eye to bend, excepting about four longer fibres as trailers. Draw off about a foot of the finest waxed tying silk, and then the operations may be conducted in this sequence.

1. Trim the hackle as shown in fig. 1, keeping it far enough from the eye to allow room to wrap it on and tie off.

2. Tie the point (some prefer to tie in the quill end of the hackle) to the hook (fig. 2) with a half hitch and three turns of silk.

3. Tie on the thorax material (A), the body material (B), and the tinsel (T) as shown, with a few turns of silk from head to tail end.

4. Run the silk back to the head end.

5. Take hold of the body material with the fly tweezers, and wrap it on.

6. Take a turn of silk round the body at the shoulder, take the tweezers off, and wrap on the tinsel, and tie off with two turns of silk.

7. Then wrap the thorax round and over the end of this, wrap the hackle, and tie off with two or three turns and two half hitches. Trim off all ends; the head may or may not be varnished, if well tied, this is not necessary.

It is necessary to thoroughly master this dressing, as it is the basis of all flies, the others being mostly additions to this one. Some use a vice to hold the hook; this, however, is entirely unnecessary, and after a few trials, the fingers will be found handier than any mechanical device for holding the hook, but tweezers for holding hackles, &c., are indispensable, and it is as well to have at least two pairs of them. A good sharp pair of scissors are also necessary.

Style II. A Palmer.

A Palmer may be dressed thus :—

1. Tie on two hackles as shown (fig. 7), having a longish quill with short fibres.

2. Tie on the body materials, probably peacock (P) and tinsel (T), fig. 8.

3. Wrap on the peacock, then the tinsel, and tie off (fig. 9).

4. Wrap on the body hackle from the tail to the shoulder of the fly (fig. 10).

5. Wrap on the head hackle at the shoulder only, and tie off as before (fig. 11).

Style 3. An Upright Winged Fly.

The wings are the "*Pons asinorum*" of fly dressers; but, by using suitable feathers, the fibres of which "marry" well, such as woodcock, starling, or jay, and very fine tying silk, the initial difficulties are soon overcome. To begin with, remember that sufficient room must be left at the head end of the hook for tying on the wings, in addition to tying off the hackle.

1. Tie on the hackle as before.

2. Body and tinsel as before, with the addition of three fibres for tails as shown, or tag if desired (fig. 12).

3. Wrap on the hackle as before (fig. 13), observing that there is room for the wings at the eye end of the hook, or if short of room, the legs may be pushed back by the nails of the thumb and forefinger to make more room.

4. Cut from a suitable feather a portion (as marked, fig. 14) twice the width of the required wings. This must be carefully worked between the forefinger and thumb until it is rectangular instead of rhomboidal.

5. Double it down the centre in the direction of the fibres—not across them.

6. Hold it tightly on the hook in the position shown on fig. 15, with the left forefinger and thumb (fig. 16).

7. Throw a half hitch over the end of the wings, drawing the silk between the finger and thumb, and tighten down. Pull well home, but be careful not to break the silk. Wrap round three times and knot off. Trim ends off and varnish (fig. 17).

Style IV. A Split Winged Fly.

In dressing these, the method is rather different from that just described for an upright winged fly, as the wings are often tied on first instead of last, and pointing forwards instead of towards the tail of the fly. They must be cut from two feathers from right and left wings so as to tie right and left.

1. Tie in the wings as in fig. 18, and make them long enough, as they lose length in the turning back.

2. Tie on the hackle, body, and tails as before described ; fig. 19 then shows the state of affairs.

3. Divide the wings with a big pin or pricker, and pull them right and left.

4. Wrap on the hackle, which should be long in the quill and short in the fibre, with what is known as a figure eight, which is accomplished by wrapping the hackle alternately between, behind, and before the wings, then tie off as before. This has the effect of holding the wings up and apart, thus giving them the parachute action which causes the fly to alight on the water lightly, hook downwards.

Style V. A Spent Gnat.

This is a fly which has fallen exhausted on the water with outspread wings, and is usually dressed thus :—

1. Tie on two or four small hackle feathers, or their points only, if the whole feather is too large for the purpose, as shown (fig. 21).

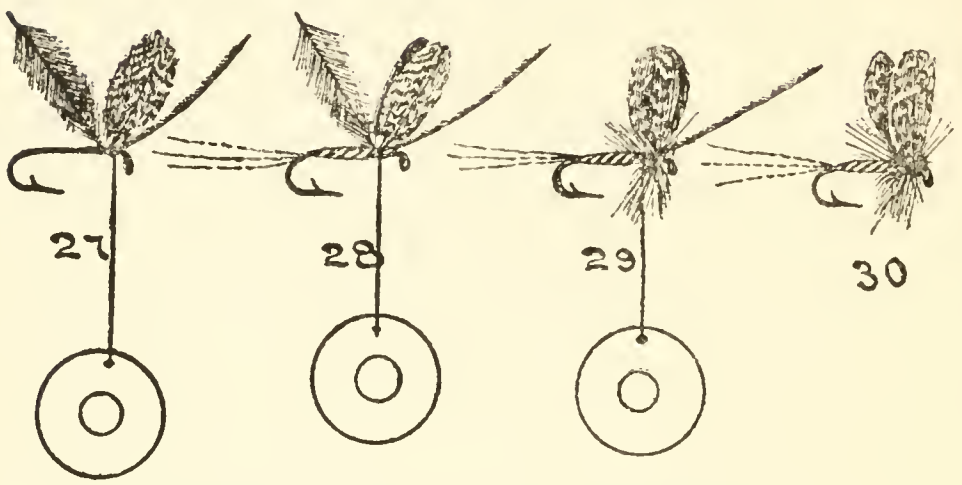
2. Tie and wrap body, tails, tinsel, and other dressing, as before described (fig. 22).

3. Spread the feathers to position shown, and wrap on the hackle (fig. 23) with a figure eight as before. If difficulty is experienced, by reason of the quills of the wings breaking when they are bent back, a few minutes in luke warm water will soften them sufficiently to enable them to be bent to any angle.

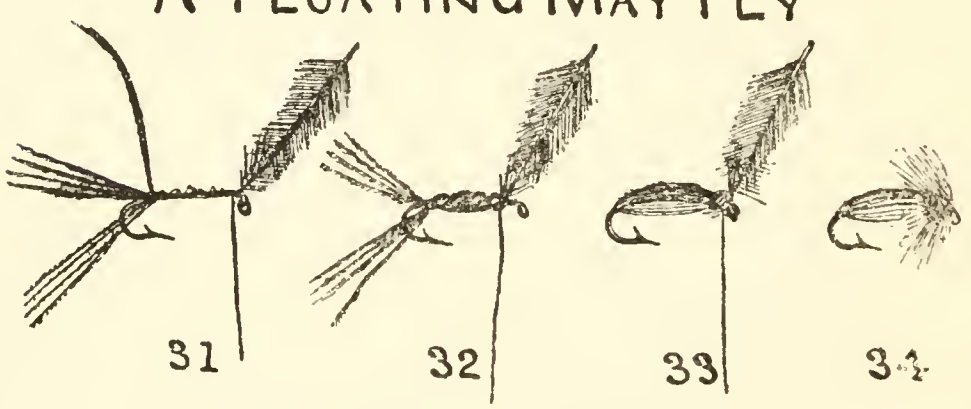
MAKING AN ARTIFICIAL (CONTINUED).

PLATE 16

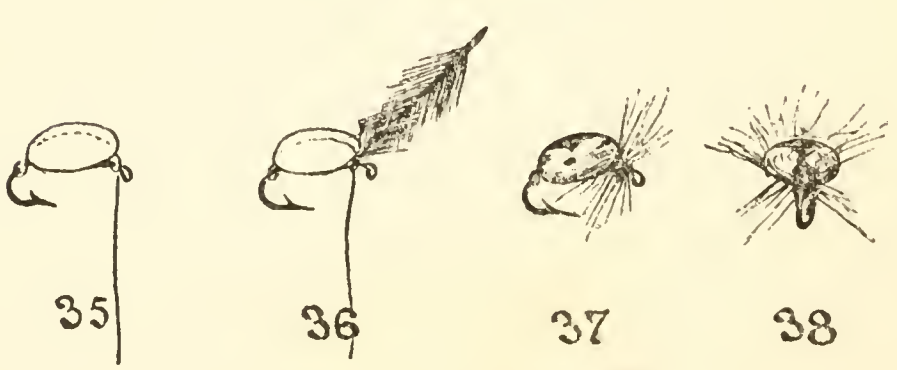
A SEDGE FLY



A FLOATING MAY FLY



A BEETLE



A SPIDER

Chapter XVI.

MAKING AN ARTIFICIAL (Continued).

Plate 16.

Style VI. A Down Winged Fly or Sedge.

These are dressed just the same as an ordinary up-winged fly, excepting that the wings must be laid as low as they can be on the body without splitting. In the large flies as, before stated (page 112), we prefer to tie them thus, so as to enable the fly to maintain its correct shape.

After tying on the body and hackle, tie in two small medium stiff whole feathers as shown (fig. 24), preferably taken from right and left hand wings. When procurable, we prefer these either natural or dyed cinnamon, then over these the proper colour of wings are tied in the usual manner (fig. 25). Tied thus, they keep their form exceedingly well, and float first rate, which, in a big Sedge Fly, often adds very much to its power of attraction. Fig. 26 shows a back view.

Style VII. An Upright Whole Winged Fly.

This is dressed with whole feathers, in place of a section of a feather, as in a split winged fly, but, in

addition, some peacock herl is frequently used as a head. The cycle of operations being :—

1. Tie on wings, head materials, and hackle (fig. 27).
2. Tie on body and tails.
3. Wrap body (fig. 28).
4. Pull wings to correct position.
5. Wrap hackle with figure eight, and finish with head, and tie off (figs. 29–30).

STYLE VIII. A BEETLE.

1. Tie on a hackle.
2. Wool for body padding.
3. Herl for back and underside of the body.

All as shown in fig. 31.

4. Wrap on the body to required thickness (fig. 32).
5. Tie down back and body coverings (fig. 33).
6. Wrap on hackle and finish off (fig. 34).

STYLE IX. A SPIDER.

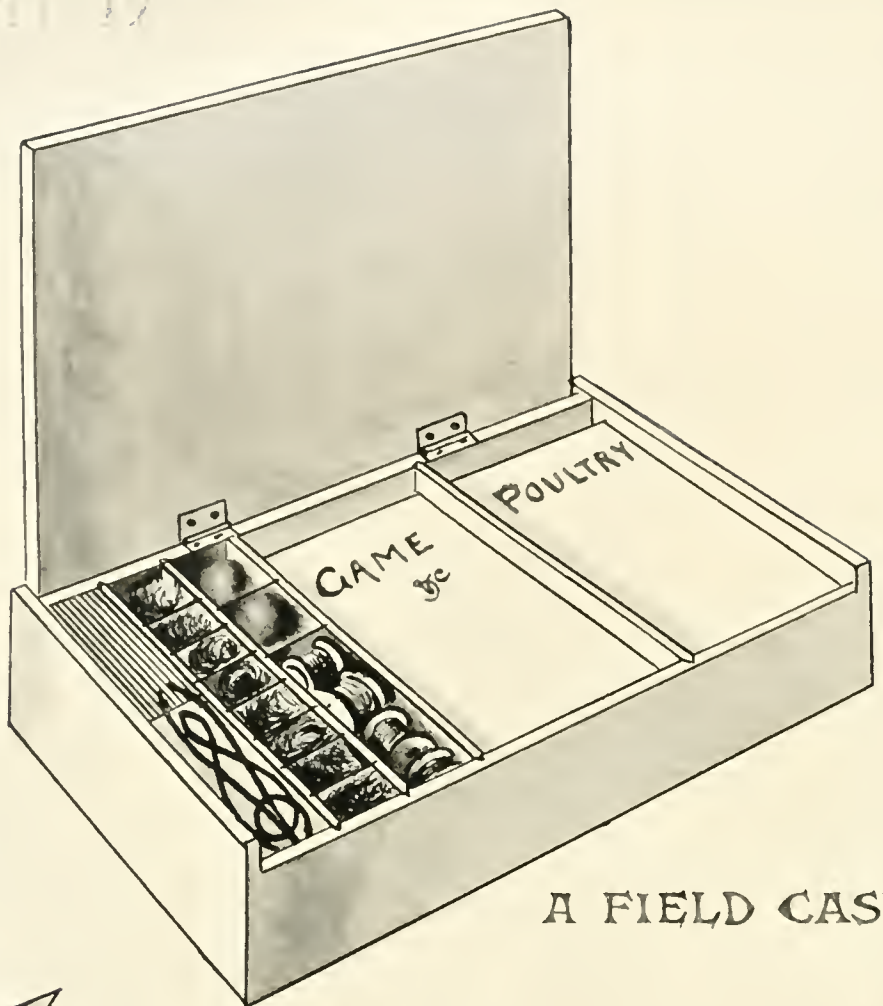
1. Cut out a cork body.
2. Nick the cork, and pass a piece of gut (doubled) along the nick and round the tail end of the hook, and tie off at the head end (fig. 35).
3. Tie on hackle for legs (fig. 36).
4. Wrap on hackle (fig. 37).

Fig. 38 shows the back view.

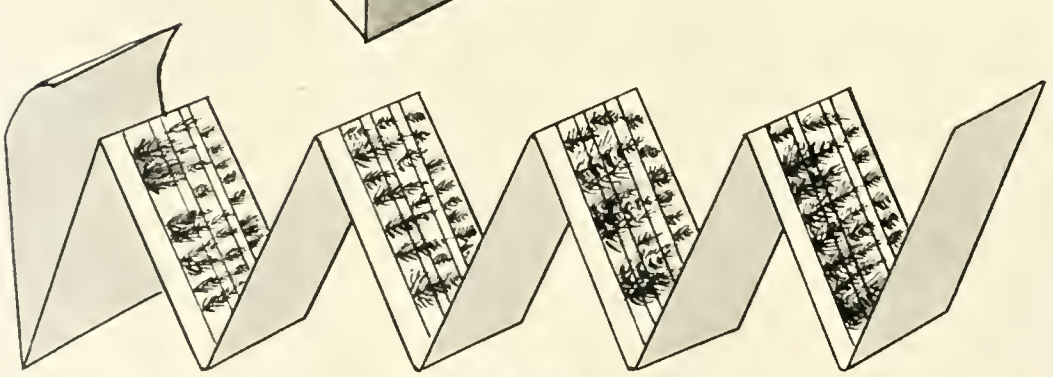
With the foregoing instructions and the formulæ previously given, the amateur should have no difficulty in making a start, and then he may, with advantage,

get some expert to show him the various *modus operandi*, which are much more quickly acquired by being seen in practice than merely read about. After this, it will, no doubt, be found handy to refer to these notes as memoranda of methods for tying the different varieties, some of which are only occasionally required. We are aware that some fly-dressers do not follow the sequence here given, in tying, in the various materials, but the amateur will, we think, find them at least as handy as any others, and we know from long experience that they give thoroughly sound and satisfactory results in practice.

MAKING AN ARTIFICIAL (Continued).



A FIELD CASE



A FOLDER

SECTION OF FOLDER.

STRIPPING A QUILL.

Chapter XVII.

MAKING AN ARTIFICIAL (Continued).

Plate 17.

For those who like to dress their own flies when away on angling excursions and who desire a portable convenient case to hold all tools, hooks, and essential materials, we may say that the handy man can easily make one thus: Procure a good cigar box with hinged lid measuring $8\frac{3}{4}$ ins. $\times$ $5\frac{5}{8}$ ins. $\times$ $1\frac{1}{2}$ ins. outside dimensions, this may be covered in imitation of a book, if desired, and divided internally into compartments with strips of wood and metal.

No. 1. To contain tweezers, pricker and nippers.

No. 2. Small envelopes containing different sized hooks.

No. 3. Dubbing materials of various colours.

No. 4. Black and white wax.

No. 5. Tying silks on small bobbins.

No. 6 and 7, contain feathers and herl and stripped quills or celluloid strips, the three latter are in long narrow envelopes, the feathers are arranged in four specially made tough paper folders under the titles, Wings, Game, etc., Duck, etc., and Poultry. The last named folder contains all the hackles arranged in bunches, twelve in a bunch, the strip of paper to make this folder measures 30 ins. $\times 4\frac{7}{8}$ ins. $+\frac{1}{2}$ in., the half inch being folded over and pasted at each corner and fixed as shown,

when the hackles are placed in position, the paper folds up and measures less than $\frac{3}{8}$ in. in thickness when containing over 1200 hackles. The sketch should make the arrangement clear, the quill end of the feather is slipped under the pasted strips which form a continuous pocket from end to end.

The enlarged section shows clearly the construction.

The wing feathers are contained in a folder of six pages with one central strip to steady them.

The duck feathers take four pages.

The game feathers occupy four pages with five tiers.

Before leaving home on an excursion it is as well to run over the contents and be sure that the stock of any particular feather has not been depleted on a previous occasion. Before placing feathers in this case it as well to trim away all useless fluff and some prefer to dip the feathers for wings in a very thin solution of best carriage varnish in acetone, this prevents the wings from splitting so easily both when tied on the hook and also in use, by proofing them it also aids their floating capacity. After carefully dipping them and laying them out to dry in a warm room for 24 hours, the closest scrutiny is necessary to see they have been so treated, but the fibres hang together much more tenaciously as a result.

THE CHOICE OF A FLY.

Chapter XVIII.

THE CHOICE OF A FLY.

The great question which recurs at every fishing expedition is "what fly is most likely to command success?" The answer to this question depends on a great variety of circumstances, and an intelligent consideration of these will well repay the trouble.

Types.

Broadly speaking, we may divide flies into two classes, viz., "attractors" and "deceivers," with the reservation that an attractor must be a deceiver and a deceiver, attractive.

"Attractors."

If the water is large, or in flood; or the weather boisterous; or the fish not rising a fly much larger than the natural, or with an extra touch of colour or tinsel about it, will frequently prove more successful than a smaller imitation, which is really a more faithful copy of a natural insect.

This is what we should term an "attractor," and when the conditions are not favourable for fine fishing, the use of such a fly is often successful.

"Deceiver."

If, on the other hand, the waters are fine, or the fish dimpling the surface, on the look out for insects, the smallest fly alighting on the surface is seen by them, and the artificial must be a "deceiver" to render

good service, that is, must be a good imitation of an individual species, or sufficiently typical to be at once mistaken for some fly or larva on which the fish are feeding.

Freaks.

There are times when the fish are glutted, or during very unsettled atmospheric conditions, when they persistently refuse the natural fly, and yet are playing about near the surface. At such times a freak is useful to meet the abnormal conditions, that is, a fly of abnormal form, vivid colour, or one totally out of season.

But generally speaking, a careful imitation of nature, if persistently used, pays best in the long run, and freaks are to be avoided.

Time of Year.

In the early part of the season, larger flies may be used than later on, when the fish are getting hook shy. A medium-sized hook both hooks and holds better than a very small one.

Evening.

Similarly, as the light fails in the evening, a fair-sized hook may be used with advantage.

Natural.

Under ordinary conditions, the fly chosen should be a careful imitation of the natural fly the fish appear to be taking, or, if instead of boldly rising to the natural, they are "bulging" or "tailing," a small hackle, similar in colour to the natural fly on the water, is successful when a winged imitation is refused.

Size.

The size of the fly chosen is of the highest importance. It should, as a rule, be less than the natural from which it is copied, this being particularly the case under very fine conditions of weather and water, as the season advances, and on waters which are over-fished. Indeed, under the latter conditions, a fly many sizes smaller than the natural (though of the same form and colour) is often necessary.

Small Hooks.

But in using too small a hook many fish are missed and others lost owing to the hook losing hold, although apparently firmly embedded after the rise.

Frequently, quite half a dozen species of flies will be found on the water at one time. Then careful observation will usually reveal the fact that one is being taken in preference to the others.

Colour.

At the same time, the old adage, "Bright day, bright fly; dull day, dull fly," if borne in mind, will help towards a useful choice in the matter.

Dressing.

For thin, clear water, flies cannot be dressed too sparsely, or too thin in the body; an almost bare hook doing better than an overdressed one.

In deeper or heavier waters, this is not so important, as too thin a fly does not show well enough to be attractive.

If fish are rising short, or coming to the fly and then turning away without taking hold, it is a sign that

the colour is right but the size is wrong, and a change to one similar in colour but smaller, will frequently meet with success.

Thick Bodies.

For late evening or night fishing, however, this is reversed. The most killing flies are then mostly heavy and woolly in the bodies, as might be expected—as most nocturnal flies have thick hairy bodies, particularly as the warm weather comes on. Early in the season much smaller flies are useful at night than later on, contrary to the rule, with regard to the size of flies used during the day.

Night.

A Miss.

If, in fishing a restricted water, where trout are large and not too plentiful, a good fish is risen and missed, it is as well to have another cast with the same fly; if this is refused, change the fly to one of about the same size but different in colour, and try again in a few moments, this often has the desired effect.

When fishing a long stretch, of course, this may be out of the question, but when a second rise is wanted out of a fish, a different fly has a better chance than the one which rose the fish on the first occasion.

Hatch of Flies.

It is seldom that a good rise is on to any particular pattern of fly until the original of that pattern has been hatching for several days, the first few stragglers of any hatch seldom causing a distinct rise to any given pattern. It is only when the hatch

of flies becomes well developed that a general rise may be expected, or that the artificial will be taken with any degree of confidence.

Number.

As to the number of flies to be used on a cast at one time—in ordinary wet fly fishing, across and down stream—probably three is the best number. We certainly prefer this number to four, although in some places four or even five are commonly used; but the disturbance of the water, the extra risk of catching stones and other obstacles, as well as tangling the cast, certainly do not compensate for any multiplying of chances, which we look on as very doubtful.

In upstream fishing, one fly, or two at most, should be used. More are only a nuisance, disturbing the water, and also dividing the angler's attention, when it would pay much better to have it concentrated on one fly only, and fish this one really carefully in all the eddies and corners.

This may not be very orthodox doctrine, but our experience is that when fewer flies are used the more fish are caught, simply because fewer are missed. Although at times fewer may be risen, a greater proportion of them will be hooked.

On a hard fished water when following another angler it is advisable to use a fly differing in pattern from the one the first man is employing, on the same principal as changing the fly when a fish is missed. Fish which refuse one pattern of fly may rise eagerly to another

different in form, colour or size ; even under the finest conditions an abnormally large fly will at times take fish after the finest flies of small size have been ignored. When fishing for sea trout under fine conditions, brown trout are frequently taken, the fly selected for brown trout would be many sizes less than the one in use at the time.

LIST OF FLIES AND WHEN THEY APPEAR.

Chapter XIX.

LIST OF FLIES AND WHEN THEY APPEAR.

Enquiries as to when certain flies appear on the water are so frequent that we are prompted to give a list showing the recorded dates on which we have taken specimens of the various species, in an uncertain climate like ours such dates can only be an approximate guide, and again flies are certain to be earlier in their appearance in the South of England than say on the North East coast, the temperature of the water has a great influence on the development of species inhabiting it as it not only regulates their development directly but also indirectly by retarding or encouraging the growth of the food of insects ; a few degrees rise of temperature accelerating the growth of aquatic plants and the minute forms of life both animal and vegetable on which the aquatic larvæ of insects feed. Experience teaches that it is most dangerous to recommend the use of any particular fly or even to record a good catch with any given pattern. In case of failure the fly maker is blamed, in case of success—well, of course, it is superior fishing ! A friend returned from a fishing trip, hailed me one day : Asked, " what sport ? " He replied, " rather mixed as the weather broke badly," then, after a moment's thought, added, " By the way, that ' Iridescent Fly ' of yours was a

dead failure!" "Ah," we remarked, "that is unfortunate!" —"Yes," he continued, "I tried everything I could think of without success, then I looked at my book and saw your 'Prismatic' and said to myself this really is a fly and will do the trick, but could not stir a fin with it, it was an entire failure." Further questioning elicited the fact that at the time the river was rising rapidly, it was blowing a gale, and raining cats and dogs! Yet surprise and indignation are expressed because a fly specially designed and specifically recommended for bright weather and fine conditions fails to charm in impossible conditions. The safest advice to give is: at any particular season certain flies are usually on the water look out for them, and if the fish are observed taking them, use the nearest imitation you have. This book was not written to provide anglers with infallible formulæ but rather to stimulate and encourage them to observe for themselves what flies are moving and help them to determine how a useful imitation may be constructed of a few typical specimens met with at the waterside.

On seldom fished waters almost any reasonably typical fly of the right size—small for thin waters and medium for deeper ones, will command a measure of success. In hard fished waters where trout are continually pricked and lost, the amateur fly tier will frequently achieve success by tying an uncommon or it may be a local fly the imitation of which has not been presented to the fish before or with such frequency as the common patterns. For such I append the

following list in the hope that it contains information which may prove useful. In mild seasons the various dates given may be anticipated by three weeks or even a month, and in cold, wintry seasons the flies may not appear until a later date. Especially in the North of England.

		Date of General Appearance.	Remarks.
1.	Large Crane Fly ...	July	In deep waters.
2.	Orange Crane Fly	August	,, ,, ,,
3.	Evening Crane Fly	June	Calm Evenings.
4.	Gravel Fly ...	April, earlier if warm	Stoney streams.
5.	Small Yellow Crane Fly	July	Lowland waters.
6.	Olive Gnat ...	May	Slow running waters.
7.	Black Gnat ...	May	,, ,, ,,
8.	Green Gnat ...	End of June	,, ,, ,,
9.	Ruby Gnat ...	June & July	Slow waters
10.	Brown Gnat ...	Aug. & Sept.	Generally distributed.
11.	Cowdung Fly	April onwards	Good in a wind
12.	Hoverer ...	August	,, ,, ,,
13.	Small Hoverer ...	Aug. & Sept.	,, ,, ,,
14.	Silver and Black ...	May to July	A splendid sun fly.
15.	Black Cuss ...	End of May	A useful general fly.
16.	Green Insect ...	June to end of season	One of the best sun flies.
17.	Green Bottle ...	August	Useful in deep or wooded waters.
18.	Oak Fly ...	May & June	Best in a wind.
19.	Snipe Fly ...	June	Generally useful.
20.	Hawthorn Fly ...	End of May	When the hawthorn is out.
21.	Silver Tail ...	End of May	Excellent towards the end of the season.

		Date of General Appearance.	Remarks.
22.	Small Oak Fly ...	July & Aug.	A good general fly.
23.	Striped Hoverer ...	Aug. & Sep.	A useful sun fly.
24.	Wood Fly ...	July & Aug.	Good for deep waters.
25.	Speckles ...	June	Frequent in reedy margins.
26.	Bronze Fly ...	July & Aug.	First rate in fine conditions.
27.	Metallic Fly ...	July & Aug.	Especially in deep waters.
28.	Blow Fly ...	Aug. & Sep.	In heavy waters especially.
29.	Green Drake ...	June	Indispensable on waters where a good rise takes place.
30.	Dark Drake ...	June	
31.	Yellow Dun ...	August	Quite a favourite.
32.	Turkey Brown ...	May	A useful general pattern.
33.	Sulphur Dun ...	June & July	A good useful fly.
34.	Brown Spinner ...	May	A useful type.
35.	Brown and Yellow Spinner	June	Locally abundant.
36.	March Brown ...	April	One of the best all round flies.
37.	Early Olive ...	April	One of the best.
38.	Small Red Spinner	May	,, ,, ,,
39.	Red Spinner ...	May	,, ,, ,,
40.	Yellow Tailed Spinner	August	A useful variation to the self coloured body.
41.	Green Dun ...	August	
42.	Green Spinner ...	September	Good for grayling also.
43.	Olive Dun ...	May to end of season	A capital type and generally good.
44.	Olive Spinner ...		
45.	Jenny Spinner ...	June	Useful at times.
46.	Medium Olive Dun	June	A capital typical fly.
47.	Pale Evening Dun	July	Useful on still days.
48.	Dark Olive ...	May	Best on dark days.
49.	Whirling Blue Dun	August	Excellent at times.
50.	Stone Fly ...	June	Excellent in their seasons on stony streams.
51.	February Red ...	Easter	

		Date of General Appearance.	Remarks.
52.	Yellow Sally ...	May	Each excellent in their seasons on stony streams in any reasonable state of water.
53.	Early Brown ...	Easter	
54.	Small Yellow Sally	May	
55.	Willow Fly ...	Aug. & Sep.	
56.	Dark Needle ...	April to end of season	
57.	Bustard ...	June	These are all excellent as evening flies especially most useful on quietly running streams and reservoirs.
58.	Corncrake Sedge ...	June	
59.	Speckled Buff Sedge	July	
60.	Mottled Cinnamon	July & Aug.	
61.	Grouse and Green	July	
62.	Cinnamon Sedge ...	End of May	
63.	Buff Sedge ...	June	
64.	Pale Cinnamon Sedge	June	
65.	Silverhorn ...	July & Aug.	
66.	May Bug ...	June	Best in fine weather with a moderate wind.
67.	Cowdung Beetle	April	
68.	Soldier Beetle ...	June	
69.	Sailor Beetle ...	June	
70.	Earth Beetle ...	April to September	Very useful in a rising water.
71.	Corixa	,, ,,	Good for tailing and bulging fish.
72.	Water Boatman ...	April	
73.	Water Measurer ...	April	Very good spring flies whilst insects are scarce.
74.	Water Cricket ...	April	
75.	Green Lacewing ...	July	Useful as variants on hard fished waters.
76.	Blue Lacewing ...	June	
77.	Yellow Lacewing	August	
78.	Sweep	April	Good type of fly in its season.
79.	Yellow Nematus ...	May	
80.	Alder Fly	May	Excellent in its season.

		Date of General Appearance.	Remarks.
81.	Xyloto	August	First rate at times especially on wooded streams and reservoirs.
82.	Hylotoma	July	
83.	Ichneumon	July	
84.	Sand Wasp	April	
85.	Ruby Wasp ...	July	
86.	Green Ichneumon	August	A first rate grayling fly.
87.	Autumn Green ...	August	,, ,, ,, ,,
88.	Grass Bug	July	In windy weather in meadows.
89.	Green Aphis ...	Aug. & Sep.	In chilly winds especially good.
90.	Green Bug	September	Tip top for grayling.
91.	Wren Tail	August	At times excellent.
92.	Green Spider ...	May to September	Under the bushes it does well.
93.	Wolf Spider	May to September	In a rising water it is good under bushes.
94.	Diadem Spider ...	May to September	
95.	Red and Black Caterpillar	August	Chub trout and grayling take freely.
96.	Black Ant	August	Good especially in wooded streams.
97.	Red Ant	August	
98.	Green Caterpillar	July to September	These float well and have accounted for many large fish in slow moving waters.
99.	Black Caterpillar	July to September	
100.	Paint Brush Caterpillar	July to September	
101.	Green Beetle ...	August	Good for grayling as well as trout.
102.	Small Green Beetle	August	

WHY DO THE FISH RISE?

Chapter XX.

WHY DO THE FISH RISE ?

In describing a fishing trip, it is curious how universal it has become to describe a rise of Duns—mostly of the olive variety ; in fact, this has become almost the classical method. Many writers give a prominence, out of all proportion, to the Olive Dun in particular, and the *Ephemeridæ* in general, as though they were the only class of flies worthy the attention of any honest angler. Conscious as I am of the merits of a well-dressed small olive-coloured fly, I have a notion that in a number of cases it is taken, not for a Dun at all, but because it is a typical insect colour and the general form suggests a fly.

I have seen Olive Duns float over rising fish by scores at times, and not a fin stir ; but immediately a large Gnat comes along it is taken with avidity (and this has happened, not once, but on many occasions) and yet, few of the numerous writers on flies seem to deem the Gnat tribes worthy of any but the most scant notice, although these are roughly, six times as numerous as the *Ephemeridæ*. The *Culicidæ*, *Chironomidæ*, and *Tipulidæ* get on the waters in great numbers at times and in a great variety of forms, sizes, and colours. Of the first two named there are well over two hundred varieties, commonly known as Gnats, Midges or Mosquitoes ; and surely anglers would be

well advised in giving more attention to their claims as "fishing flies." The rise seen without any apparent hatch of flies going on, is at times clearly attributable to these small pests rising to emerge from the surface, and if at such times a carefully tied imitation is used, it is worth all the Duns in the world.

The *Tipulidæ*, which vary in size from three-sixteenths of an inch long to over two inches in length, are commonly known as Crane Flies, and the larger varieties as Daddy Long-legs, and these latter have a very alluring way of dipping along the surface of the water, especially on a breezy day towards the middle or end of the season, when the trout are getting weary of being bombarded with Duns, natural and artificial alike.

Imitations of these flies float well, and I know from experience are "excellent medicine," but they must not be dressed with double bunched hackles, but lean and rakish, with long trailing legs and cock point hackle wings, and then, even old shy fish that have refused a hundred lures fall victims to their seductive charms. Nor are these the only *Diptera* which are seen on the water and will charm when Duns cease to have interest; in very bright hot weather, the Green Insect, the Wood Fly, the Blue-bottle, and flies of that type do excellent service if made the right size and form, whether dressed as hackles or winged flies matters not, and there is little difference in their floating qualities; but all winged flies, unless the wings are fairly soft, have a great tendency to twist a fine gut cast in such a way as to speedily work its ruin.

Many years ago I remember dressing some biggish "Wood Flies," which had small sparrow quill feather tips as wings, and the least drag in the water caused them to spin and move in a most erratic manner, but for all that many a brace of lusty trout were bagged by them in a big deep mill pool on the river Aire. Which reminds me of a beautiful trout of about a pound weight, which had its home under an old tree root just below some scaffolding we were using across the river, and for six months we fed that fish daily, he would rise to everything which had no line to it. Beetles of all sorts, centipedes, worms, millepedes, grass-hoppers, grass-bugs, flies, minnows, cockroaches, wasp-grubs, all were tried, but put a line on ever so fine and he became wildly excited and darted to and fro and around the bait, but would have none of it—finally he went up the river in October and passed from our ken. I have often wondered if he ever returned to the old root or finally fell a victim to a boy with hazel switch and crooked pin.

There are other neglected friends for whom I would say a word. I have often been surprised at the neglect with which the *Perlidæ* are treated; on many streams they are more important than the *Ephemeridæ* and are easy of imitation, the large Stone Fly only excepted. The large Stone Fly is a most deadly bait when the natural fly is used up stream, and with care a passable imitation may be made with a cork base for body, wound over with thin indiarubber from the core of a golf ball, and rusty blue Andalusian hackles

for wings, and a few thickish dark legs. Then there is the Yellow Sally, so much and so unjustly abused as a "bitter fly and one rejected by the fish." This is an entire fallacy; a properly dressed imitation is one of our most prized and useful flies in its season. Again avoid the bulky bushy patterns, and remember the Sally is a pale delicate insect, and to be successful the imitation must be fine in form and be dressed with delicate glassy hackles both for wings and legs, and the trouble of obtaining the materials and making up is amply repaid: at least, that is the result of over 25 years' experience of its use.

There is another class of insects, some two hundred and fifty strong, in these islands—the *Trichoptera*, or Caddis Flies; their imitations will often turn a disastrous day into one of glorious success. There are certain small ones with bronzy wings and reddish bodies, which run about on the surface of the water very quickly, and at times hatch by thousands. Dressed fine, but with long trailing legs, not too numerous, these will do execution on hard-fished waters when all the orthodox patterns fail—but they must be dressed small and fine. My experience of heavy bushy flies is that on preserved waters they do well enough, but given conditions not too favourable, and hard fished waters, and the best way to treat them is to take out a pair of scissors and cut off two-thirds of the dressing, and at times they do better with five-sixths removed. This may seem to be rank heresy, but it is the result of actual experience, and success has been achieved by adopting this method when the fish absolutely refused

the fly as originally dressed and offered, although it was supposed to be an imitation of the fly actually on the water at the time, and to which they were rising.

Before closing these random notes I recall an incident that happened two years ago. The trout were rising in a very desultory manner, and for a long time our efforts were vain. But at last a plump fish of a pound and three quarters was landed, and an autopsy performed. The only contents of the stomach were an ordinary half-burnt wooden match and a chip of wood about an inch long: so this suggests, when they will not rise to a Dun, try a lucifer before giving up in despair, the blackened head and whitish stalk may suggest a Caddis Worm to the fish.

FROM THE FISHES' POINT OF VIEW.

Chapter XXI.

FROM THE FISHES' POINT OF VIEW.

Our member, "Glanrhôs," is, I think, right; many fly-dressers, even when they go to nature for their models, still fail to appreciate the point from which the fishes view the natural fly, and also the conditions under which they see it, this being especially the case with the makers of dry flies.

If asked what is the colour of a common house fly as seen by the fish, it is probable that the great majority of fly-dressers would unhesitatingly reply "dark grey," and although this may approximate to the truth, from *our* point of view, if we consider the conditions and circumstances under which the house fly appears to the fish, the reply is probably "quite wrong."

Let us suppose that the conditions are bright sunshine and wind, and the fly floating on the surface. Viewed *from below* in sunshine the house fly is orange, black, and ochreous in colour, due to the light coming through it, and the wings are iridescent at almost any angle. When the fly alights on the water the hairs which clothe its body carry innumerable small air bubbles which float the fly lightly, but the consequent surface tension, reflection, and refraction of the water viewed from below, give an appearance of silver and

gold around the fly, mingling with which is a strong suggestion of iridescent colouring, the colour scheme having a focus of interest in the silver and red of the eyes and head. The house fly is quoted simply as an example which can be readily obtained and the experiment verified with the minimum trouble.

So much for a dull coloured fly floating—but drown that fly, *i.e.* thoroughly wet it so as to remove the small air bubbles from its surface, and look at it sideways instead of from below, and it at once assumes a sober colour, more like our usual conception of it. If this happens with a sober, solid fly like the house fly, how much more brilliant and beautiful do we find the *Ephemeridæ*, the gnats, and other flies, whose bodies are almost transparent, and whose wings are transparent glittering sheets of iridescent colours blended with gold and silver; and yet the fly dresser attempts to imitate these with pale starling, blackbird, or other dull opaque feathers simply because his materials impose certain limitations, and again he fails to appreciate the fishes' point of view.

Viewed from above the usual feather imitation is approximately correct, but viewed from below on the surface of the water, particularly in strongish light, a good glassy hackle will give a far better suggestion of a spinner or gnat than any winged imitation ever can do. To take an analogy, which is the more suggestive of nature and the more pleasing—the laborious intricately detailed painting of a landscape, where every detail of herbage and foliage in the foreground

and an elaborate middle distance are shown, or the broad, liberal rendering of the artist giving his interpretation and impression in simple masses of form and colour, repressing all except essentials? So with the fly-dresser the simple glassy hackle glittering in the sunshine and lightly impinging on the surface of the water when viewed from below gives a far more realistic impression than a heavy winged fly struggling to float with the aid of oil, where the hackled variety rides easily and buoyantly.

The effect of oiling a dry fly is to alter its refractive index, darken and sodden it to a remarkable extent so that it does not present a thousand little points to catch the light as it did before the application of oil, and this is another excellent reason why a hackle fly frequently scores when a winged imitation, oiled, fails.

There are, of course, great limitations imposed by the materials, and also the conditions of using them. To begin with, the bodies of all flies are tubular and allow a certain amount of light to pass through them, whereas the base of all artificial flies is of necessity a steel bar, excepting in the case of flies with detached or semi-detached bodies. Viewed from above, the quill body is as near nature as possible, but from below it is almost black, unless there is light reflected from below, and although a rough, thick woolly body is an abomination, the fact cannot be overlooked that a coloured light comes through the edges of the wool which suggests a transparence entirely absent in the close hard quill body. Celluloid is transparent but

shows the centre steel bar of the hook, and the only satisfactory way we know is to make the body with a basis of tinsel, and over this wind a band of gut, celluloid, indiarubber, mohair, or other material which will allow the sheen of the tinsel to show through in part, at any rate, suggesting transparence by means of reflection.

Flies with tinsel bodies are at times "most taking," as also those which have high colour in them. A finely dressed fly with turns of three hackles, red, yellow, and green in colour, with yellow and red spines for tails, and a gilt body, will on a brilliant hot day kill in a surprising manner. On August 7th I tried various flies of the Blue and Green-bottle variety, with fair success; they floated perfectly, and on hot days are "great medicine," but as the fish began to come short, and as the day became brighter and hotter, I put up an "iridescent" fly, knowing its worth from experience, and the result abundantly justified the change. So long as the bright conditions held the "iridescent" fly worked "like a charm," but when it came on dull it ceased to be attractive, and a fly of sombre colour became more seductive.

It has been laid down in salmon fishing, "bright day, bright fly; dull day, dull fly," a rule which I have found work out also with trout. Should the weather turn thundery and dull a bright fly ceases to attract, and a black, brown, or a ochreous one will do much better. In a diary extending over some years I find several entries to the effect "as the day became dull

and gloomy the bright fly ceased to attract ; a change to a dull coloured one soon mended matters." It will be interesting to hear if other members have observed this fact. It has been averred that brackish or salt water has more tendency to produce iridescent colours and also to make objects in it glitter, and that is one reason why salmon, which are used to feed on small glittering fish, and prawns which are semi-transparent, and have long antennæ and many legs, which glitter and shine as they swim along, should be attracted by a gaudy imitation of we know not what. We watch the various crustaceæ and so on in a salt-water aquarium in sunshine and shadow with interest, and the way they change colour according to the light and shade is very suggestive and interesting.

The various reasons assigned by different philosophers or observers for fish taking a fly are curiosity, pugnacity, acquisitiveness, jealousy, and hunger. I would suggest that at any time it is possible to get a lot of rises from the first cause, by putting on a big fly or beetle in bright conditions, or even a salmon fly if it floats well. The trout will rise at it like fun, but not one in ten will be hooked : they are simply flirting with the unknown. Again, an abnormal fly put over the haunt of an old stager causes annoyance and a splashy, pugnacious rise is the result.

If two good fish have their haunts near together they become exceedingly jealous, and one is certain to fall a victim of acquisitiveness or jealousy in the fear lest his neighbour gets there first. The second fish,

after his neighbour's removal, becomes much more cautious, and will take ten times as much catching. My brother has shown me big fish in their lairs on several occasions, remarking that he had caught their mates weeks or months before, but the one left had developed into an artful old dodger, whereas before the two used to rush out at the fly simultaneously. His frequent remark is: "show me two fish and I will catch one of them, but the survivor will take even a live Blue-bottle by the wing and shake it to see if there is a line attached." Lastly, the reason for taking a fly is hunger, and really I believe this is by far the most frequent cause, as is shown by the systematic way in which the rises of trout occur.

It is not reasonable to suppose that curiosity, or in fact anything but hunger, should strike trout at regular periods just synchronising with the rise of natural insects morning and evening. Although the other passions may be called into play, the main cause of the anglers' success must ever be hunger, and to achieve success the angler must always aim at such an imitation as is an exact counterpart of one fly, or else an artificial which is so typical in form and colour that it may be readily mistaken for at least "an insect;" in other words, it is an artist's interpretation of the general or composite appearance of several insects, and if this is studied *from the fishes' point of view*, success will be steady and not the spasmodic success which follows more haphazard methods.

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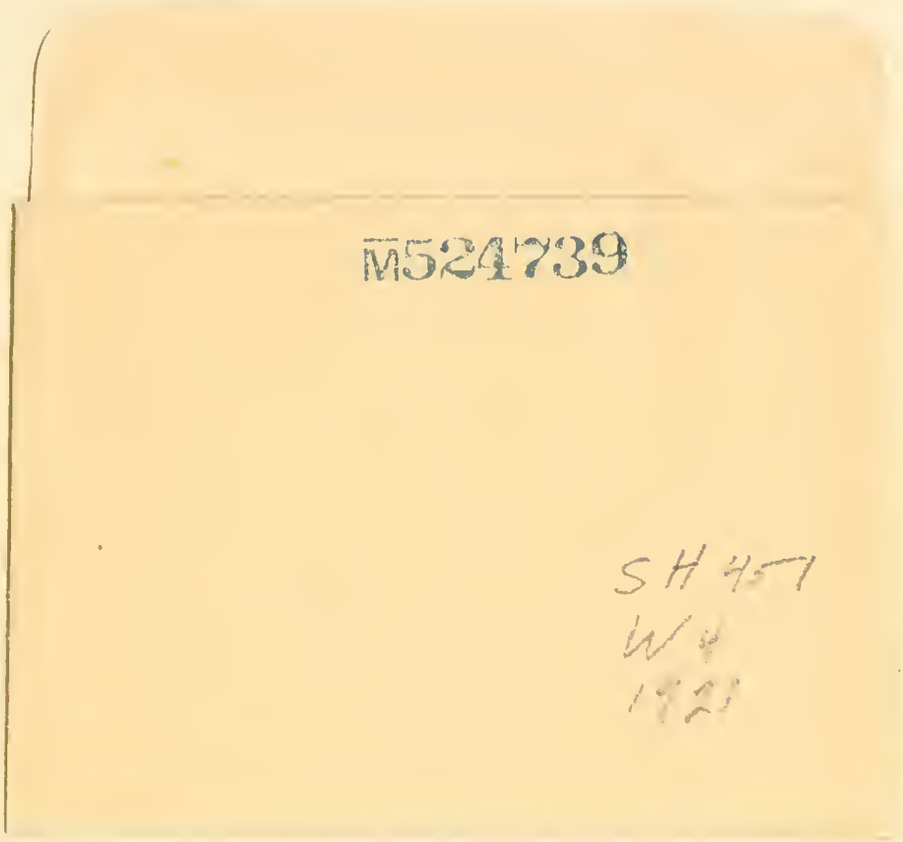
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